TRITIUM AND ITS EFFECTS IN THE
ENVIRONMENT - A SELECTED
LITERATURE SURVEY

Compiled by

A. W. Rudolph, T. E. Carroll,
and R. S. Davidson

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TABLE OF CONTENTS

	<u>Page</u>
INTRODUCT ION	
ABSTRACTS	1
INDEXES	
I Subject	112
II Author	338
III Report Number	373

TRITIUM AND ITS EFFECTS IN THE ENVIRONMENT -
A SELECTED LITERATURE SURVEY

Compiled by

A. W. Rudolph, T. E. Carroll, and R. S. Davidson
Ecological Information Analysis Center (EIAC)

INTRODUCTION

This bibliography was compiled for the purpose of providing detailed subject access to the literature on tritium and its effects in the environment with emphasis on man. The abstracts are, for the most part, of the indicative type--intended to describe the content of the references without relating specific details. All index terms associated with each article are listed in the compilation immediately following the abstract.

To provide access to the contents of the compilation, a subject, author, and report number index are provided. The index format has been used in other Battelle compiled bibliographies. It was chosen over alternative formats because it is particularly informative and affords the user a high degree of selectivity. Each entry consists of an alphabetically ordered index term, full title of the reference, and all significant terms by which the article is indexed. The index's conventional arrangement overcomes the problems of user orientation.

The index was prepared on Battelle's CDC6400 computer utilizing a modified Key-Word-Out-of-Context (KWOC) program prepared by Donald P. Moon, Senior Information Scientist, Information Systems Section.

Battelle's Stromberg Datagraphix 4060 Microfilm Data Recorder, which includes a Honeywell 516 computer was used to generate microfilm output from which the bibliography was subsequently printed.

Bibliographic sources used for selection of references to the environmental and biological literature:

I. Computerized information centers:

Oak Ridge National Laboratory, Nuclear Safety Information
Center (January 1970, 365 abstracts)

National Library of Medicine, MEDLARS Center, The Ohio State
University, Health Center Library (April 1970, 580 citations).

II. Noncomputerized information centers:

U.S. Dept. Health, Education, and Welfare, Public Health
Service, Southeastern Radiological Health Laboratory
(April 1970, 39 abstracts).

III. Published bibliographies:

Nuclear Science Abstracts
Chemical Abstracts
Biological Abstracts
Bibliography of Agriculture
Meteorological and Geostrophysical Abstracts
Selected Water Research Abstracts
Water Pollution Abstracts
U.S. Govt. Research and Development Reports
Bibliographic Index
Air Pollution Control Administration Abstracts
Journal of Science of Food and Agriculture

Anonymous. 1964. Bibliography on tritium in groundwater and as groundwater tracer (1964-1965). Commonwealth Bureau of Soils, Bibliography No. 759. 3 p. (22 refs.)

Carson, M. 1957. Tritium [a bibliography]. Livermore, Calif., University of California, Radiation Laboratory, UCRL-5069. 9 p. (97 refs.)

Croxton, F. E. and S. B. Schwind, comps. 1950. Tritium (H-3); a bibliography of unclassified literature. Oak Ridge, Tenn., TID-371. 35 p. (250 refs.)

Foskett, A. C. 1961. Tritium detection and measurement; a bibliography. Harwell, England, Atomic Energy Research Establishment, Research Group, Library Information Office, AERE-BIB-132. 30 p. (164 refs.)

Israel Atomic Energy Commission. 1959. Literature survey on production of tritium. Israel Atomic Energy Commission.

McKown, D. A. 1964. Health physics bibliography on tritium. Los Alamos, N. Mex., University of California, Los Alamos Scientific Laboratory, LAMS-2946. 82 p. (87 refs.)

Rhodenhamel, E. C., V. B. Kron, and V. M. Dougherty. 1971. Bibliography of tritium studies related to hydrology through 1966. U.S. Geological Survey, Water-Supply Paper 1900. 174 p. (1634 refs.)

IV. Personal bibliographies:

Dr. Benjamin J. Mason, Battelle-Columbus Laboratories, Las Vegas, Nev. (January 1970, 67 refs.)

00038

FRANK W. STEAD

U. S. GEOLOGICAL SURVEY, DENVER, COLO.

DISTRIBUTION IN GROUNDWATER OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS.

IN- ENGINEERING WITH NUCLEAR EXPLOSIVES. PROCEEDINGS OF THE THIRD FLOWSHARE SYMPOSIUM. HELD AT THE UNIVERSITY OF CALIFORNIA, DAVIS, 21-23 APRIL 1964. U. S. ATOMIC ENERGY COMMISSION REPORT, TID-1695. PP 127-138, 1964, 1 FIG., 2 TABS., 26 REFS.

U.S. AEC CONTRACT NO. W-7405-BNG-48.

RADIONUCLIDES RELEASED FROM UNDERGROUND NUCLEAR EXPLOSIONS IN THE FLOWSHARE PROGRAM WILL BE INITIALLY DISTRIBUTED IN THE MEDIUM BY DIRECT EXPLOSIVE ACTION, LONG-LIVED AND BIOLOGICALLY SIGNIFICANT RADIONUCLIDES MAY LATER ENTER INTO AND MOVE WITH GROUNDWATER FLOW. WHERE ADEQUATE PRECAUTIONS HAVE BEEN TAKEN, AS AT THE NEVADA TEST SITE AND AT OTHER SITES SUCH AS FLOWSHARE PROJECT GNOME, NO SIGNIFICANT POSTEXPLOSION MOVEMENT OF RADIONUCLIDES CAN AS YET BE DEMONSTRATED, HOWEVER, RADIOACTIVE WASTE DISPOSAL OPERATIONS CLEARLY INDICATE THAT, RADIONUCLIDES CAN BE TRANSPORTED CONSIDERABLE DISTANCES BY GROUNDWATER FLOW. A SINGLE, UNIVERSALLY APPLICABLE PREDICTION OF THE CHARACTER AND EXTENT OF POSSIBLE RADIONUCLIDE CONTAMINATION OF GROUNDWATER IS PRECLUDED BY THE COMPLEX INTERRELATIONSHIP AND VARIABILITY OF THE ENVIRONMENTAL FACTORS, THUS, EACH PROPOSED SITE OF A FLOWSHARE NUCLEAR EXPLOSIVE APPLICATION MUST BE CAREFULLY EVALUATED, TO DETERMINE IF UNIQUE GEOLOGIC AND HYDROLOGIC CONDITIONS ARE PRESENT WHICH MIGHT PERMIT RELATIVELY RAPID AND PROLONGED MIGRATION OF RADIONUCLIDES. WATER, NUCLEAR EXPLOSIONS, EXPLOSIONS, NUCLEAR TESTING, UNDERGROUND NUCLEAR TESTING, H-3, SR-90, CO-60, RADIONUCLIDES, SOILS, TRANSPORT, MOVEMENT, FLOWSHARE PROGRAM

00323

FRENCH HAGEMANN, JAMES GRAY, JR. LESTER MACHTA, AND ANTHONY TURKEVICH

P. HAGEMANN, AND J. GRAY, JR., ARGONNE NATIONAL LABORATORY, LEMONT, ILL.; L. MACHTA, U. S. WEATHER BUREAU, WASHINGTON, D. C.; A. TURKEVICH, UNIVERSITY OF CHICAGO, ENRICO FERMI INSTITUTE FOR NUCLEAR STUDIES, CHICAGO, ILL.

STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM.

SCIENCE, VOL. 130, PP 524-552, 1959, 5 TABS., 21 REFS.

RESULTS OF MEASUREMENTS MADE IN RECENT YEARS OF C-14, CARBON DIOXIDE, AND H-3 IN THE STRATOSPHERE ARE REPORTED. THE PURPOSE OF THESE MEASUREMENTS WAS TO OBTAIN INFORMATION ON STRATOSPHERIC CONCENTRATIONS OF C-14 AND H-3 PRODUCED BY THE EXPLOSION OF NUCLEAR DEVICES AND TO STUDY THE CHANGES IN THESE CONCENTRATIONS WITH TIME. SUCH DATA CAN BE EXPECTED TO FURNISH NEW INSIGHT INTO THE CIRCULATION OF THE STRATOSPHERE, AS WELL AS TO CONTRIBUTE TO THE EVALUATION OF HAZARDS FROM NUCLEAR EXPLOSIONS IN THE ATMOSPHERE. THE SAMPLING PROGRAM FOR C-14 WAS STARTED IN LATE 1953 AT MINNEAPOLIS, MINN., AND EXTENDED IN 1955 TO SAN ANGELO (TEX.), CANAL ZONE (PANAMA), AND SAO PAULO (BRAZIL). C-14 WAS DETERMINED BY MEASURING THE SPECIFIC ACTIVITY OF CARBON DIOXIDE FROM AIR COLLECTED AT ALTITUDES BETWEEN 45,000 AND ABOUT 100,000 FEET. AIR SAMPLES WERE COLLECTED MONTHLY AT 4 ALTITUDES AT EACH LOCATION, UNLESS OPERATIONAL DIFFICULTIES PREVENTED COLLECTION. H-3 MEASUREMENTS WERE PERFORMED ONLY ON SAMPLES COLLECTED AT MINNEAPOLIS, PRIMARILY IN THE PERIOD 1957-58. C-14, H-3, CARBON DIOXIDE, NUCLEAR TESTING, STRATOSPHERE, PANAMA CANAL ZONE, RADIOBIOLOGY, NORTH AMERICA, SOUTH AMERICA, CENTRAL AMERICA, RADIONUCLIDES

03209

R. E. ELLIS

MEDICAL COLLEGE OF ST. BARTHOLOMEWS HOSPITAL, LONDON

AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS AND THEIR BIOLOGICAL SIGNIFICANCE.

PHYSICS IN MEDICINE AND BIOLOGY, VOL. 10, PP 153-176, 1965, 7 FIGS., 6 TABS., 79 REFS.

EXISTING LEVELS OF ENVIRONMENTAL CONTAMINATION ARE REVIEWED, THEIR TREND WITH TIME IS SHOWN.

RANGE OF LEVELS IN MEMBERS OF A PARTICULAR COMMUNITY, DUE TO VARIATIONS OF AGE AND DIET AND TO LOCAL METEOROLOGICAL CONDITIONS, IS CONSIDERED. METHODS OF EXPRESSING RADIATION DOSE TO POPULATION ARE DISCUSSED, AND LEVELS SUGGESTED BY VARIOUS AUTHORITIES WHEN REMEDIAL ACTION WOULD BE REQUIRED ARE COMPARED. EXISTING DATA ON INTERPRETATION OF RISK TO THE INDIVIDUAL FROM CHRONIC RADIATION ARE ALSO DISCUSSED.

CONTAMINATION, RADIOACTIVITY, FALLOUT, DOSE RATES, SAFETY, REVIEW, RADIONUCLIDES, C-14, ZR-NB-95, RU-103, SR-89, SR-90, CS-137, MAN, MILK, I-131, WATER, H-3, DIETS, FOODS, RADIATION EXPOSURE, FRESH WATER

03222

ROY C. THOMPSON

GENERAL ELECTRIC COMPANY, HANFORD LABORATORIES, RICHLAND, WASH.

VERTEBRATE RADIOBIOLOGY- METABOLISM OF INTERNAL EMITTERS.

ANNUAL REVIEW OF NUCLEAR SCIENCE, VOL. 10, PP 531-560, 1960, 224 REFS.

A REVIEW OF THE METABOLISM OF INTERNAL EMITTERS IS GIVEN, WITH RADIOBIOLOGICAL SIGNIFICANCE BEING THE CRITERION FOR SELECTION OF MATERIAL. ONLY THE MORE COMPREHENSIVE AND ACCESSIBLE REFERENCES, WITHOUT REGARD TO HISTORICAL PRECEDENCE, ARE GIVEN. THIS PAPER DISCUSSES FIRST THOSE GENERAL CONSIDERATIONS PERTINENT TO ALL RADIOISOTOPES, FOLLOWED BY A REVIEW OF THE METABOLISM OF SPECIFIC RADIOELEMENTS CONSIDERED IN RELATION TO THEIR GROUPING IN THE PERIODIC TABLE.

RADIOBIOLOGY, METABOLISM, PHYSIOLOGY, BODY BURDEN, RADIONUCLIDES, REVIEW, MAN, PLUTONIUM, H-3, SR-90, CS-137, ZN-65, GA-72, P-32

03778

03390

L. L. THATCHER, B. R. PAYNE, AND J. P. CAMERON

INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, AUSTRIA

TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961.

IN- RADIOACTIVE FALLOUT FROM NUCLEAR WEAPONS TESTS. A. W. KLEMENT, JR., ED. PROC. 2ND CONF., GERMANTOWN, MD., 1964. USABC/DIV. TECH. INFO., AEC SYMPOSIUM SER. 5, CONF-765, PP 646-674, 1965, 13 FIGS., 8 TABS., 9 REFS.

H-3 LEVELS ROSE FROM AN AVERAGE BASE OF 80 TRITIUM UNITS (T.U.) FOR CONTINENTAL SITES IN THE NORTHERN HEMISPHERE TO AVERAGE PEAKS OF 2000 T.U. IN 1962 AND 4000 TO 5000 T.U. IN 1964. INDIVIDUAL PEAKS WERE HIGHER, REACHING 10,000 T.U. IN NORTHERN CANADA. LEVELS IN PRECIPITATION WERE LOWER IN 1964. THE PEAK YEAR WAS 1963. RATE OF DECREASE FROM 1963 TO 1964 WAS LESS THAN THE COMPARABLE PERIOD 1959 TO 1961, POSSIBLE REFLECTING HIGHER ALTITUDES INVOLVED IN THE LAST TESTING. H-3 AND SR-90 DEPOSITION VALUES OVER THE GLOBE SHOW INTERESTING CONSISTENCIES THAT MAY PERMIT ESTIMATION OF H-3 CONCENTRATION FOR UNSAMPLED AREAS. THE HTO/SR-90 RATIO INCREASES TOWARD HIGH MID-LATITUDES IN THE NORTHERN HEMISPHERE. THE SOUTHERN HEMISPHERE PRECIPITATION AVERAGED ONLY 15 T.U. IN 1963 COMPARED TO SEVERAL THOUSAND T.U. FOR THE NORTHERN HEMISPHERE. IT WAS ESTIMATED THAT IN 1962 AND 1963 DEPOSITION OF H-3 WAS APPROXIMATELY 44 OR 96 KG, DEPENDING ON WHETHER OR NOT OCEANIC EXCHANGE WAS INCLUDED IN THE CALCULATION. THIS WOULD LEAVE EITHER 124 OR 72 KG IN THE STRATOSPHERE BASED ON THE ASSUMPTION OF A 168 KG PRODUCTION IN 1961 AND 1962. SR-90, H-3, RADIONUCLIDES, DISTRIBUTION, ATMOSPHERE (TERRESTRIAL), FALLOUT, SAMPLING, DEPOSITION, HTO/SR-90 RATIO

03732

JOHN J. KORANDA

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND.

HEALTH PHYSICS, VOL. 11, PP 1445-1457, 1965, 1 FIG., 9 TABS., 21 REFS. (ALSO U. S. AEC REPORT UCRL-12302-T.)

RESULTS OF A PRELIMINARY SURVEY OF DETONATION ENVIRONMENTS IN THE PACIFIC PROVING GROUNDS INDICATE THAT RESIDUAL H-3 AND C-14 ARE PRESENT IN RELATIVELY HIGH CONCENTRATIONS IN SOIL MATERIALS OF DETONATION SITES AT TIMES UP TO 12 YEARS AFTER THE EVENT. EXCHANGE OF SOIL-BOUND H-3 WITH AVAILABLE SOIL WATER TAKES PLACE AT A SLOW BUT SIGNIFICANT RATE AND H-3 IS DETECTABLE IN PLANTS GROWING IN

DETONATION ENVIRONMENTS. C-14 IS ALSO ELEVATED IN CONCENTRATIONS IN MARINE ORGANISMS. DUE TO THE HIGH RATE OF EXCHANGE OF LAGOON WATERS WITH THE OPEN SEA, THESE ELEVATED CONCENTRATIONS ARE HIGHLY LOCALIZED IN THE VICINITY OF THE DETONATION SITE. (AUTH.)
H-3, C-14, RADIONUCLIDES, MARSHALL ISLANDS, PLANTS, SOILS, RETENTION, NUCLEAR TESTING, WATER, ATOLLS, SEA WATER, RAINWATER, SAMPLING, WOOD, ANIMALS, LEAVES, LITTER, PACIFIC PROVING GROUNDS

03818

K. E. COWSER, S. V. KAYE, P. S. ROHWER, W. S. SNYDER, AND B. G. STRUXNESS
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENNESSEE
DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-4101. 218 P., 1967, 13 FIGS., 11 TABS., 49 REFS.

U. S. AEC CONTRACT NO. W-7405-ENG-26.

THE INFORMATION INCLUDES 1) METHODS FOR ESTIMATING EXTERNAL AND INTERNAL DOSE EQUIVALENTS, FOR QUANTIFYING THE TRANSFER OF RADIONUCLIDES THROUGH CRITICAL EXPOSURE PATHWAYS, AND FOR IDENTIFYING THE RADIONUCLIDES LIKELY TO BE CRITICAL; 2) CRITERIA FOR EVALUATING THE RADIOLOGICAL SAFETY OF THE OPERATION; AND 3) LISTS OF RADIONUCLIDES ARRANGED ACCORDING TO THE DOSE COMMITMENT THAT RESULTS FROM EXPOSURE TO A UNIT QUANTITY OF EACH RADIONUCLIDE. EQUATIONS TO ESTIMATE EXTERNAL AND INTERNAL RADIATION DOSE COMMITMENTS WERE DEVELOPED WHICH ACCOUNT FOR PRODUCTION, VENTING, AND MOVEMENT OF RADIONUCLIDES IN ENVIRONMENTAL EXPOSURE PATHWAYS. A COMPARTMENT MODEL FOR REPRESENTING MOVEMENT OF RADIONUCLIDES IN THE TROPICAL ENVIRONMENT WAS DESIGNED WITH COUPLED COMPARTMENTS HAVING INCOME AND LOSS FLUXES CONTROLLING THE INVENTORY OF RADIONUCLIDES WHICH MAY HAVE INPUTS TO MAN. THE SPECIFIC-ACTIVITY CONCEPT FOR ESTIMATING THE ALLOWABLE RADIONUCLIDE CONCENTRATIONS IN THE ENVIRONMENT WAS EVALUATED IN A WAY THAT REVEALS - MIGRATIONS, CONSIDERING THE TIME-DEPENDENT RELATIVE IMPORTANCE OF RADIOACTIVE HALF-LIFE, BIOLOGICAL HALF-TIME, AND BIOLOGICAL GROWTH. (AUTHS.)
EXPLOSIONS, MAN, ORGANS, HALF-LIFE, FOOD-CHAINS, BIOLOGICAL HALF-LIFE, I-131, THYROID GLAND, WATER, H-3, INGESTION, ORGANS, COMPUTER PROGRAMS, LIFE, CANALS, SEA-LEVEL CANAL, DOSE ESTIMATION, MODELS, CONTAMINATION, ENVIRONMENTS, TRANSFER, COMPARTMENTS, SPECIFIC ACTIVITIES, GROWTH,

04066

P. O. AGNEDAL AND S. O. W. BERGSTROM
A B ATOMENERGI, STUDSVIK, SWEDEN

RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY.
IN- DISPOSAL OF RADIOACTIVE WASTES INTO SEAS, OCEANS, AND SURFACE WATERS. PROCEEDINGS OF THE SYMPOSIUM, HELD IN VIENNA, 16-20 MAY 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, STI-PUB-126, PP 753-767, 1966, 2 FIGS., 4 TABS., 20 REFS. (ALSO- AB-234)

THE RESEARCH STATION AT STUDSVIK IS SITUATED ON THE BALTIC COAST, WHERE THERE ARE SEVERAL REACTORS AND LABORATORIES AND A WASTE DISPOSAL PLANT THAT SERVES BOTH THE STATION AND WASTE PRODUCERS OUTSIDE STUDSVIK. A STORAGE PLANT FOR IRRADIATED FUEL FROM POWER REACTORS HAS ALSO BEEN BUILT. A TOTAL OF 850 PEOPLE ARE EMPLOYED. MOST OF THE WASTE ACTIVITY IS RELEASED TO A STRAIT LEADING INTO TVAREN BAY, AND LARGE VOLUMES OF WATER OF VERY LOW SPECIFIC ACTIVITY ARE RELEASED IMMEDIATELY OFF SHORE. THE BALTIC HAS BRACKISH WATER IN WHICH THE CHEMISTRY AND THE BIOLOGY ARE QUITE DIFFERENT FROM THOSE OF MARINE OR FRESH-WATER BODIES. A SHORT DESCRIPTION IS GIVEN OF THE FAUNA AND FLORA AND IMPORTANT FOOD WEBS ARE DISCUSSED. THE VARIOUS ROUTES OF EXPOSURE TO MAN FROM WASTE RELEASES TO SURFACE WATERS ARE ADSORPTION ONTO DEAD MATERIALS. EXPOSURE FROM FISH CONSUMPTION IS THE TION ONTO DEAD MATERIALS. EXPOSURE FROM FISH CONSUMPTION IS THE ROUTE MOST LIKELY TO BE CRITICAL. IT IS, HOWEVER, POSSIBLE THAT EXPOSURE FROM SUN-BATHING AND HANDLING FISHING GEAR COULD REACH SIMILAR SIGNIFICANCE IF CONSERVATIVE CALCULATIONS WERE USED. ACCUMULATION FACTORS FROM WATER TO FISH ARE GIVEN FOR IRON, COBALT AND ZINC. PERMISSIBLE RELEASES HAVE BEEN CALCULATED WITH RELEVANT ACCUMULATION FACTORS. FISSION PRODUCTS AND CORROSION PRODUCTS SEEM TO BE OF SIMILAR SIGNIFICANCE REGARDING POSSIBLE EXPOSURE OF MAN. PERMISSION TO RELEASE LIQUID WASTE IS GRANTED BY WATER COURTS IN SWEDEN AND OPERATIONS ARE INSPECTED BY SPECIAL AUTHORITIES. AS THE WATER COUR PROCEDURE TAKES A LONG TIME AND IS VERY EXPENSIVE, IT IS SUGGESTED THAT THE VERDICT SHOULD ONLY TAKE INTO ACCOUNT THE HYDROLOGY AND THE FORMAL ASSUMPTIONS ON DIET AND THE BEHAVIOR OF THE EXPOSED CATEGORIES. BIOLOGICAL ACCUMULATION FACTORS FOR DIFFERENT RADIONUCLIDES SHOULD THEN BE FIXED BY THE INSPECTING AUTHORITY AND REVISED WHEN NECESSARY AND WITHOUT A NEW VERDICT. (AUTHS.)
BALTIC SEA, WASTES, WATER, FOOD-CHAINS, ACCUMULATION, RADIOACTIVITY, FISH, MAN, RADIONUCLIDES, RADIOACTIVE WASTES, FLORA, FAUNA, H-3, FE-59, CO-60, ZN-65, SR-90, RU-106, CS-137, PU-239

04073

H. L. BUTLER AND J. H. LEROY

E. I. DUPONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S. C.
OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM.
HEALTH PHYSICS, VOL. 11, PP 263-285, 1965, 3 FIGS., 2 TABS., 10 REFS.
U.S. AEC CONTRACT NO. AT(07-2)-1.

DURING THE PAST 10 YEARS 309,000 URINE SAMPLES WERE RADIOASSAYED FOR H-3 IN SRP HEALTH PHYSICS PROGRAM. MOST OF THESE WERE ANALYZED USING A LIQUID SCINTILLATION COUNTING TECHNIQUE DEVELOPED AT SRP. IN 310 CASES H-3 CONCENTRATION IN URINE WAS AT LEAST 20 MICROCI/L. BIOLOGICAL HALF-LIFE VALUES FOR THESE CASES RANGED FROM 4 TO 16 DAYS, WITH AN AVERAGE OF 9.5 PLUS OR MINUS 4.1 DAYS (90% CONFIDENCE LEVEL). FACTORS WHICH INFLUENCE BIOLOGICAL HALF-LIFE, SUCH AS OUTDOOR TEMPERATURES, AMOUNT OF H-3 ASSIMILATED, AND AGE OF EMPLOYEE, WERE STUDIED. DURING THE WARMER MONTHS, THE AVERAGE HALF-LIFE WAS LOWER AND IS ATTRIBUTED TO INCREASED WATER INTAKE. DATA SHOWED NO CORRELATION BETWEEN AMOUNT ASSIMILATED AND BIOLOGICAL HALF-LIFE. A TREND TOWARD A SHORTER HALF-LIFE WAS OBSERVED FOR INCREASING AGE. (AUTHS.)
RADIONUCLIDES, H-3, BIOLOGICAL HALF-LIFE, RADIOCHEMICAL ANALYSIS, URINE, ASSIMILATION, MAN, AGE, TEMPERATURE, WATER, HALF-LIFE, ANALYSIS, SAVANNAH RIVER PLANT

04074

J. C. DROBINSKI, JR., D. P. LA GATTA, A. S. GOLDIN, AND J. G. TERRILL, JR.

J. C. DROBINSKI, JR., D. P. LA GATTA, AND A. S. GOLDIN, U.S. PUBLIC HEALTH SERVICE, NORTHEASTERN RADIOLOGICAL HEALTH LABORATORY, WINCHESTER, MASS.; J. G. TERRILL, JR., U.S. PUBLIC HEALTH SERVICE, DIVISION OF RADIOLOGICAL HEALTH, WASHINGTON, D.C.
ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM.
HEALTH PHYSICS, VOL. 11, PP 385-395, 1965, 8 FIGS., 4 TABS., 35 REFS.

LEVELS OF C-14 AND H-3 IN VARIOUS TYPES OF ENVIRONMENTAL SAMPLES COLLECTED FOR THE PERIOD JANUARY 1963 TO APRIL 1964 WERE MEASURED AT THE NORTHEASTERN RADIOLOGICAL HEALTH LABORATORY. SAMPLE TYPES INCLUDED COMPOSITE FOODS (TOTAL DIETS), INDIVIDUAL FOOD ITEMS, ATMOSPHERIC CARBON DIOXIDE, AND HUMAN AND ANIMAL ORGANS, TISSUES AND FLUIDS. AN OUTLINE OF ANALYTICAL METHODOLOGY EMPLOYED, A SUMMARY OF DATA COLLECTED, AND A BRIEF RESUME OF FUTURE PLANS TO THESE STUDIES ARE INCLUDED. (AUTHS.)

RADIONUCLIDES, C-14, ANALYSIS, FOOD, DIETS, TISSUE, BLOOD, MEAT VEGETABLES, FRUITS, CARBON DIOXIDE, MAN, ANIMALS, RADIOCHEMICAL ANALYSIS, EQUIPMENT, ATMOSPHERE, H-3, SAMPLING

04086

M. W. CHESNUTT, J. C. DROBINSKI, JR., AND R. H. GORRIE

M. W. CHESNUTT AND R. H. GORRIE, U.S. PUBLIC HEALTH SERVICE, DIVISION OF RADIOLOGICAL HEALTH, MONTGOMERY, ALA.; AND J. C. DROBINSKI, JR., U.S. PUBLIC HEALTH SERVICE, DIVISION OF RADIOLOGICAL HEALTH, WINCHESTER MASS.

TRITIUM IN SURFACE WATERS, 1964-1965.

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 7(7), PP 377-380, 1966, 2 FIGS., 1 TAB., 15 REFS.

CONCENTRATIONS OF H-3 IN U.S. SURFACE WATERS ARE REPORTED FOR THE PERIOD MAY 1964 THROUGH DECEMBER 1965. THIS IS THE INITIAL REPORT OF A CONTINUING SURVEILLANCE PROGRAM. RESULTS SHOW SOME DIFFERENCES IN H-3 CONCENTRATIONS IN WATER SAMPLES FROM VARIOUS PARTS OF THE COUNTRY AND AS A FUNCTION OF TIME. THE HIGHEST LEVEL OBSERVED (20.3 N CI/L) WAS WELL BELOW THE OCCUPATIONAL EXPOSURE

GUIDE (30 MICROCI/L) AND THE GUIDANCE LEVEL REQUIRING ACTIVE SURVEILLANCE (100 NC1/L), CALCULATED FROM THE GENERAL GUIDANCE OF THE FEDERAL RADIATION COUNCIL. (AUTHS.)
H-3, WATER, SURFACE WATER, CONCENTRATIONS, UNITED STATES, SAMPLING

04136

D. EHHAULT, W. ROTHER AND W. STICH
UNIVERSITY OF HEIDELBERG, GERMANY
DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHAERISCHEN WASSERSTOFF SEIT 1960. [INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960.]
ZEITSCHRIFT FÜR NATURFORSCHUNG, VOL. 21A, PP 1703-1709, 1966, 3 FIGS., 1 TAB., 15 REFS.
MEASUREMENTS OF H-3 AND H-2 CONTENT OF ATMOSPHERIC HYDROGEN ARE REPORTED. MEASURED H-3 WAS CORRECTED FOR LOCAL CONTAMINATION BY INDUSTRIAL HYDROGEN. SAMPLES COVER THE PERIOD FROM 1960 TO 1965. H-3 CONTENT SHOWED A MARKED INCREASE IN 1961 BUT ROSE SLOWLY IN 1962 AND 1963. THERE IS EVIDENCE OF A FURTHER INCREASE IN H-3 CONTENT STARTING IN FALL 1964. THE EXPLANATION SUGGESTED IS, THAT TRITIATED HYDROGEN IS INJECTED INTO THE HIGH STRATOSPHERE BY THERMONUCLEAR EXPLOSIONS AND MIXES DOWN INTO THE TROPOSPHERE WITH A 2- TO 3-YEAR DELAY. THUS ONE WOULD ASCRIBE THE FIRST INCREASE TO 1958 TESTING, THE SECOND TO 1961/ 1962 THERMONUCLEAR TEST SERIES. (AUTHS.)
H-3, ATMOSPHERE, RADIONUCLIDES, DEUTERIUM, HYDROGEN, CONTAMINATION, MONITORING, NUCLEAR EXPLOSIONS, EXPLOSIONS

04147

R. SCOTT RUSSELL (ED.)
AGRICULTURAL RESEARCH COUNCIL, RADIOBIOLOGICAL LABORATORY, LETCOMBE REGIS, WANTAGE, BERKSHIRE, ENGLAND
RADIOACTIVITY AND HUMAN DIET.
OXFORD, PERGAMON PRESS, XII, 551 P., 1966, ILLUS., REFS.
THIS BOOK IS DIVIDED INTO 6 PARTS COVERING THE FOLLOWING- (1) INTRODUCTION (4 PAPERS ON THE ENVIRONMENT OF MAN, CRITERIA FOR RADIATION PROTECTION, FOOD CHAINS, AND HUMAN DIET), (2) FOOD-CHAINS ON DRY LAND- GENERAL PRINCIPLES, (3) FOOD-CHAINS ON DRY LAND- STRONTIUM, (4) FOOD-CHAINS ON DRY LAND- EXCLUDING STRONTIUM, (5) AQUATIC FOOD-CHAINS, AND (6) PRACTICAL ASPECTS OF THE ASSESSMENT AND CONTROL OF DIETARY CONTAMINATION. TWO APPENDICES CONTAIN (1) DEFINITION OF TERMS AND UNITS AND (2) DISTRIBUTION AND DEPOSITION OF DEBRIS FROM NUCLEAR WEAPONS. INCLUDES 5 ARTICLES THAT BRIEFLY REVIEW H-3 STUDIES.
RADIOACTIVITY, MAN, DIET, ENVIRONMENT, RADIATION EXPOSURE, ZN-65, CONTAMINATION, RADIONUCLIDES, SR-90, U-131, SR-89, CS-137, MILK, FOOD, FOOD-CHAINS, CALCIUM, FALLOUT, VEGETATION, ABSORPTION, SOILS, ANIMALS, METABOLISM, PHYSIOLOGY, WATER, FRESH WATER, SEA WATER, ALGAE, BA-140, C-14, FISH, FORAGE, LEAVES, RADIATION, ROOTS, RU-103, RU-106, H-3, ZR-95

04175

J. D. BURTON
AGRICULTURAL RESEARCH COUNCIL, RADIOBIOLOGICAL LABORATORY, LETCOMBE REGIS, WANTAGE, BERKSHIRE, ENGLAND
RADIOACTIVE NUCLIDES IN SEA WATER, MARINE SEDIMENTS AND MARINE ORGANISMS.
IN- CHEMICAL OCEANOGRAPHY, VOL. 2. J. P. RILEY AND G. SKIRROW, EDS. N. Y., ACADEMIC PRESS, PP 425-475, 1965, 3 FIGS., 7 TABS., 272 REFS.
ATTENTION IS GIVEN MAINLY TO NUCLIDES IN 2 CATEGORIES- (1) NATURALLY OCCURRING OF VERY LONG HALF-LIFE THAT HAVE PERSISTED SINCE THE FORMATION OF THE EARTH, AND THEIR SHORTER-LIVED DAUGHTER NUCLIDES WHICH ARE CONTINUALLY RENEWED BY DECAY. (2) NATURALLY OCCURRING NUCLIDES THAT HAVE SHORTER HALF-LIVES ON THE GEOLOGICAL TIME-SCALE BUT WHICH ARE BEING CONTINUALLY PRODUCED BY NUCLEAR PROCESSES. THE IMPORTANT NUCLIDES, FROM THE PRESENT VIEW-POINT, ARE PRODUCED BY INTERACTION OF COSMIC RADIATION WITH THE ATMOSPHERE.
RADIONUCLIDES, WATER, SEA WATER, MARINE, SEDIMENTS, MARINE BIOLOGY, HALF-LIFE, C-14, H-3, SI-32, BE-10, DISTRIBUTION, ENVIRONMENTS, TH-232, URANIUM, RA-226, RN-222, PB-210, CONCENTRATION, RADIOACTIVITY

04224

HOWARD T. ODUM
PUERTO RICO NUCLEAR CENTER, MAYAGUEZ, P. R.
BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL.
HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. LOOM, MATHEMATICAL OF TRITIUM METABOLISM.
WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL.
COLUMBUS, OHIO, BATTILLE MEMORIAL INSTITUTE, COLUMBUS LABORATORIES, BM-171-2. 36 P., 1967, 17 FIGS., 3 TABS., 9 REFS.
U.S. AEC CONTRACT NO. AT(26-1)-171.
FROM DATA ON RAINFALL, THROUGHFALL, STEMFLOW, EVAPORATION, TRANSPIRATION, PERCOLATION, PHOTOSYNTHESIS, AND RESPIRATION FROM THE MONTANE FOREST AT EL VERDE (PUERTO RICO), A HYDROGEN COMPARTMENTAL DIAGRAM WITH FLOW RATES AND COMPARTMENTAL STORAGES WAS PREPARED AND PERMITS COMPUTATION OF TRANSIENT PHENOMENA FOR FLOW OF H-3 IN A TROPICAL FOREST ASSUMING A KNOWLEDGE OF EXTENT AND DURATION OF TRACER INPUT.
A MATHEMATICAL MODEL FOR H-3 TRANSFER, BASED UPON THIS DIAGRAM, IS GIVEN IN THE APPENDIX. TRANSFER RATES AT EL VERDE ARE FOUND TO BE SOMEWHAT COMPARABLE TO THOSE OF PANAMA DURING ITS WET SEASON AS THEIR RAINFALL AND SATURATION DEFICITS ARE SIMILAR.
PUERTO RICO, EL VERDE, RAIN FORESTS, MONTANE FORESTS, FORESTS, STORAGE, CYCLING, TRANSLOCATION, RADIONUCLIDES, H-3, COMPARTMENTS, HYDROGEN BUDGET, MODELS, MATHEMATICAL MODELS, RAINFALL, CLIMATOLOGY, METABOLISM, PHYSIOLOGY, ANALYSIS, INPUT-OUTPUT ANALYSIS, WATER, THROUGHFALL, STEMFLOW, EVAPORATION, TRANSPIRATION, PHOTOSYNTHESIS, TRACERS, TRANSFER

04271

B. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S. C.
EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPT. JULY - DECEMBER 1966.
AIKEN, S. C., B. I. DU PONT DE NEMOURS AND CO. SAVANNAH RIVER PLANT, DPST-67-30-1. 20 P., 1967, 4 FIGS., 8 TABS.,
AVAILABILITY- CPSTI.
U.S. AEC CONTRACT NO. AT(07-2)-1.
RESULTS OF THE ENVIRONMENTAL MONITORING PROGRAM OF ATMOSPHERE, VEGETATION, FOOD, AND WATER FOR THE PERIOD EXTENDING FROM JULY 1 THROUGH DECEMBER 31, 1966, ARE PRESENTED. THE QUANTITY OF RADIOACTIVE WASTE RELEASED BY THE SAVANNAH RIVER PLANT TO ITS ENVIRONS WAS, FOR THE MOST PART, TOO SMALL TO BE DISTINGUISHED FROM NATURAL BACKGROUND RADIATION OR WAS OBSCURED BY WORLDWIDE FALLOUT FROM NUCLEAR WEAPONS TESTING. FALLOUT FROM THE CHINESE NUCLEAR TEST ON OCTOBER 27, 1966, WAS DETECTED AT SRP. FALLOUT FROM THE 5TH CHINESE NUCLEAR DETONATION IN LATE DECEMBER HAD NOT ARRIVED AT SRP BY DECEMBER 31. BETA ACTIVITY IN AIR, WHICH SHOWED NO RELATIONSHIP WITH PLANT OPERATIONS, WAS ABOUT THE SAME AS THAT OBSERVED FOR THE PAST 18 MONTHS. RADIOACTIVE MATERIALS IN FISH FLESH CONTINUED TO BE FAR BELOW LEVELS CONSIDERED SIGNIFICANT FROM A HEALTH STANDPOINT. AVERAGE CONCENTRATION OF RADIONUCLIDES IN RIVER WATER AT HIGHWAY 301 DID NOT EXCEED 1.2% OF MAXIMUM PERMISSIBLE CONCENTRATIONS. SAVANNAH RIVER PLANT, ENVIRONMENT, ENVIRONMENTAL RADIATION, VEGETATION, FOOD, WATER, FRESH WATER, BETA ACTIVITY, RADIATION, ALGAE, FISH, MONITORING, GAMMA RADIATION, FALLOUT, NUCLEAR TESTING, ATMOSPHERIC NUCLEAR TESTING, CONCENTRATION, RADIONUCLIDES, H-3, RU-103, RU-106, CE-141, CE-144, CS-134, CS-137, BA-CA-140, ZR-CB-95, CR-51, SR-89, I-131, SR-90, CO-60, ZN-65, MN-54, MAXIMUM PERMISSIBLE CONCENTRATION, ATMOSPHERE (TERRESTRIAL)

04316

R. W. PERKINS AND J. M. NIELSEN
BATTILLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, RICHLAND, WASH.
COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT

U.S. AEC CONTRACT NO. AT(45-1)-1830.

RADIONUCLIDES ARE CONTINUALLY PRODUCED BY INTERACTIONS OF COSMIC RAYS WITH THE ATMOSPHERE, HYDROSPHERE AND LITHOSPHERE. MOST STUDIES ARE CONCERNED WITH RADIONUCLIDES PRODUCED IN THE ATMOSPHERE OR IN METEORITES. THESE NUCLIDES RESULT MAINLY FROM SPALLATION REACTIONS WITH ATMOSPHERE CONSTITUENTS OR WITH IRON IN THE CASE OF METEORITES BUT C-14 IS PRODUCED BY THE THERMAL NEUTRON CAPTURE OF NITROGEN. PRODUCTION RATES OF THESE NUCLIDES IN THE ATMOSPHERE ARE STRONGLY DEPENDENT ON ALTITUDE AND GEOMAGNETIC LATITUDE. USES OF C-14 AND H-3 IN RADIOACTIVE DATING, ATMOSPHERIC AND OCEAN TRANSPORT, AND OTHER STUDIES ARE WELL KNOWN. WHILE C-14, BE-7, BE-10 AND H-3 ARE PRODUCED FROM LIGHT ELEMENT CONSTITUENTS OF THE ATMOSPHERE, NUMEROUS OTHER RADIONUCLIDES ARE PRODUCED BY SPALLATION REACTIONS ON ATMOSPHERIC ARGON. TO DATE NA-22, NA-24, SI-32, P-32, S-35, S-38, CL-36, CL-38 AND CL-39 HAVE BEEN REPORTED. METEORITIC DUST, WHICH IS CONTINUALLY SHOWERED INTO THE ATMOSPHERE, CONTAINS SPALLATION PRODUCTS OF IRON AND OTHER COSMIC-RAY INDUCED RADIONUCLIDES. CONCENTRATIONS OF MOST RADIONUCLIDES ARE EXTREMELY LOW AND IN SOME CASES THEIR ARTIFICIAL PRODUCTION BY WEAPONS TESTING HAS GREATLY EXCEEDED THEIR NATURAL PRODUCTION. THE BIOSPHERE IS CONTINUALLY EXPOSED TO THE WIDE SPECTRUM OF COSMIC-RAY PRODUCED NUCLIDES AND SOME OF THESE WHICH ARE CONCENTRATED BY BIOLOGICAL PROCESSES CAN SERVE AS TRACERS IN STUDIES OF BIOLOGICAL PROCESSES IN NATURE. (AUTHS.)

RADIONUCLIDES, COSMIC-RAYS, ENVIRONMENTS, ATMOSPHERE, C-14, BE-7, H-3, NA-22, NA-24, SI-32, P-32, P-33, S-35, S-38, CL-36, CL-38, CL-39, HALF-LIFE, CONCENTRATION, BE-10

04389

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NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS.

IN- RADIOACTIVE FALLOUT, SOILS, PLANTS, FOODS, MAN. E. B. FOWLER, ED. AMSTERDAM, ELSEVIER PUBLISHING COMPANY. PP 113-155, 1965, 3 FIGS., 17 TABS., 212 REFS.

THE OCCURRENCE OF NATURAL RADIONUCLIDES IN SOILS AND NATURAL WATERS HAS BEEN REVIEWED AS HAS THEIR OCCURRENCE IN HUMAN FOODS AND OTHER BIOLOGICAL MATERIALS. A GREAT DEAL OF INFORMATION IS UNAVAILABLE WITH RESPECT TO SOME NUCLIDES OF THE URANIUM, THORIUM AND ACTINIUM SERIES AND K-40, C-14 AND H-3. LESS DATA OF INTEREST HERE ARE AVAILABLE FOR RB-87. INFERENCES MAY BE MADE, WITH CAUTION, FOR THE OCCURRENCE OF RADIOISOTOPES OF LEAD, INCLUDING PB-204. FEW DATA APPEAR TO BE AVAILABLE FOR OTHER NATURAL RADIONUCLIDES SO FAR AS THIS REVIEW INDICATES. MUCH DATA HAS BEEN REPORTED FOR CONCENTRATIONS OF NATURAL RADIONUCLIDES IN AGRICULTURAL AND OTHER BIOLOGICAL MATERIALS WHICH FORM PARTS OF THE FOOD WEB. REFERENCE WAS MADE TO SEVERAL RECENT INVESTIGATIONS INTO THE DIETARY INTAKE OF A FEW NUCLIDES, ESPECIALLY RA-226. THESE AND OTHER INVESTIGATIONS REVIEWED, AS WELL AS LACK OF INFORMATION, SUGGEST A NUMBER OF INTERESTING AREAS OF RESEARCH. ALONG WITH STUDIES OF ARTIFICIAL RADIONUCLIDES IN THE FOOD WEB, FURTHER KNOWLEDGE OF NATURAL NUCLIDES MAY BE OF INTEREST. (AUTH.)

RADIONUCLIDES, FOODS, SOILS, WATER, RADIOCHEMICAL ANALYSIS, K-40, C-14, RB-87, PB-204, REVIEW, FOOD-CHAINS, RA-226, FRESH WATER, ANALYSIS, H-3

04866

U.S. GEOLOGICAL SURVEY

CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA-PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966

106 P., TABS., (1967). (UNPUBL. REPORT)

AVAILABILITY- ARPA.

ANALYTICAL DATA SHEETS ARE PRESENTED FOR CHEMICAL, SPECTROGRAPHIC, AND RADIOCHEMICAL ANALYSIS OF WATER SAMPLES TAKEN ON AMCHITKA ISLAND, ALASKA DURING 1964 AND 1965.

LONG SHOT, CHEMICAL ANALYSIS, RADIOCHEMICAL ANALYSIS, ANALYSIS, ALASKA, AMCHITKA ISLAND, ALUTIAN ISLANDS, WATER, SPECTROCHEMICAL ANALYSIS, RADIONUCLIDES, H-3

04882

R. O. HANSEN, RAMON DIOS VIDAL AND P. R. STOUT

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CALIF.; R. D. VIDAL, NATIONAL RESEARCH COUNCIL OF SPAIN.

RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION.

IN- SYMPOSIUM ON RADIOISOTOPES IN THE BIOSPHERE, R. S. CALDECOTT AND L. A. SNYDER, EDS. MINNEAPOLIS, UNIVERSITY OF MINNESOTA, PP 23-36, 1960, 8 TABS., 8 REFS.

REVIEWS THE NATURALLY OCCURRING RADIOACTIVE ISOTOPES IN SOILS AND THEIR ASSOCIATION WITH STABLE ELEMENTS IN GAS, LIQUID AND SOLID PHASES; EMPHASIS IS PLACED ON POTASSIUM, RUBIDIUM, URANIUM, RADIUM AND RADON. PRESENTED IN TABULAR FORM IS THE RADIOACTIVITY IN 1 ACRE OF A GREEN CROP PLANT IN CURIES PER ISOTOPE, INCLUDING H-3 AND C-14. ANNUAL TURNOVER OF LABILE RADIOELEMENTS BY GOOD CROPLANDS IS ESTIMATED TO BE 70 MILLCI/SQ MI. MAN-MADE RADIOISOTOPES IN PLANT-SOIL-ANIMAL RELATIONSHIPS REQUIRE DIFFERENT CHEMICAL CONSIDERATIONS.

RADIONUCLIDES, SOILS, CHEMICAL ANALYSIS, PHYSICAL ANALYSIS, ANALYSIS, CHEMICAL COMPOSITION, POTASSIUM, CARBON, CLAYS, SILICATES, WEATHERING, RADIOACTIVITY, RUBIDIUM, URANIUM, RADIUM, RADON, NONMETALS, METALS, PLANTS, LEACHING, H-3

04893

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RADIOISOTOPE ABSORPTION AND METHODS OF ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF ENTRY.

IN- SYMPOSIUM ON RADIOISOTOPES IN THE BIOSPHERE, ED. BY R. S. CALDECOTT AND L. A. SNYDER, UNIVERSITY OF MINNESOTA, PP 489-513, 1960, 10 FIGS., 4 TABS., 69 REFS.

THE POTENTIAL ROUTES OF ENTRY OF SUBSTANCES INTO THE BODY ARE VIA SKIN ABSORPTION, INHALATION, AND INGESTION. THIS REPORT MAKES NO ATTEMPT TO REVIEW EXHAUSTIVELY THE LITERATURE ON SKIN, LUNG, AND GASTROINTESTINAL ABSORPTION OF RADIOACTIVE MATERIALS. INSTEAD, A SOMEWHAT SUPERFICIAL DISCUSSION OF THE POTENTIAL PORTALS OF ENTRY AS THEY MAY APPLY TO GENERAL BIOSPHERIC CONTAMINATION IS GIVEN, AND DATA ON ABSORPTION OF A FEW SPECIFIC RADIONUCLIDES ARE PRESENTED TO ILLUSTRATE THE NATURE OF SOME OF THE PROBLEMS INVOLVED.

ABSORPTION, ELIMINATION, RADIONUCLIDES, MAN, SKIN, INGESTION, LUNGS, GASTROINTESTINAL TRACT, CONTAMINATION, REVIEW, H-3

04934

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A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT.

IN- RADIOISOTOPES IN HYDROLOGY. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, STI/PUB/71. PP 1-24, 1963, 5 FIGS., 6 TABS., 11 REFS.

DILUTION, CONTINUOUS SAMPLE AND TOTAL COUNT METHODS WERE USED IN A COMPARATIVE STUDY OF RADIOTRACER METHODS OF RIVER FLOW MEASUREMENT IN THE AYLBURTON BROOK IN GLOUCESTERSHIRE AND THE USWAY BURN AND ALWIN RIVERS IN NORTHUMBERLAND. THESE ARE 3 RIVERS OF DIFFERING GEOLOGICAL CHARACTER WITH FLOW RATES VARYING BETWEEN 2.5 L/S AND 3 M³/S. THE DEGREE OF ADSORPTION OF NA-24, BR-82, AND P-32 IN THE FORM OF NAHCO₃, NH₄BR AND NAH₂PO₄ WAS STUDIED BY COMPARISON OF MEASUREMENTS AT SEVERAL POINTS DOWNSTREAM OF A COMMON INJECTION POINT AND BY INTRODUCTION OF TRITIATED WATER (HTO) SIMULTANEOUSLY WITH EACH OF THE 3 TRACERS. IT HAS BEEN SHOWN THAT P-32, WHICH WAS EXPECTED TO UNDERGO A HIGH DEGREE OF CHEMISORPTION, IS VALUELESS AS A TRACER FOR RIVER FLOW MEASUREMENT WHEN USED WITHOUT CARRIER BUT THERE IS A SIGNIFICANT DECREASE IN ERROR WHEN IT IS USED WITH CARRIER. NA-24 AND BR-82 SHOW NO EVIDENCE OF ADSORPTION AT DISTANCES MUCH GREATER THAN THAT REQUIRED TO GIVE LATERAL MIXING ALTHOUGH AT A DISTANCE OF OVER 660 M IN THE SLOWEST-MOVING RIVER THERE IS SOME EVIDENCE OF NA-24 REMOVAL. OBSERVATIONS OF THE DEGREE OF LATERAL AND LONGITUDINAL DISPERSION WHICH AFFECT THE GENERAL APPLICATION OF TRACER TECHNIQUES TO RIVER AS IT GIVES THE HIGHEST ACCURACY FOR THE SMALLEST QUANTITY TRACER. FLOW MEASUREMENT ARE PRESENTED. IT IS CONCLUDED THAT ALL 3 METHODS BE SATISFACTORILY USED BUT THE CONTINUOUS SAMPLE METHOD IS PREFERRED.

MEASUREMENT, RADIONUCLIDES, SAMPLING, RIVERS, FLOW RATES, TRACERS, RADIOACTIVE TRACERS, ADSORPTION, NA-24, BR-82, P-32, HYDROLOGY, H-3, EQUATIONS, TRITIATED WATER

G. KNUTSSON, K. LJUNGGREN, AND H. G. FORSBERG
G. KNUTSSON, CHALMERS TECHNICAL HIGH SCHOOL, GOTHENBURG, SWEDEN; K. LJUNGGREN AND H. G. FORSBERG,
ISOTOPE LABORATORY, STOCKHOLM, SWEDEN
FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER
FLOW.

IN- RADIOISOTOPES IN HYDROLOGY. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, STI/PUB/71, PP 347-363,
1963, 7 FIGS., 14 REFS.

VELOCITY OF GROUNDWATER FLOW IN SOIL IS RATHER LOW AND TRACERS WITH MEDIUM OR LONG HALF-LIFE
MUST BE CHOSEN TO TRACE THE MOVEMENT. A STABLE EDTA-COMPLEX OF CR-51 (HALF-LIFE 28 D) WAS DEVELOPED
FOR THIS PURPOSE AND USED TOGETHER WITH TRITIUM WATER. WITH THIS DOUBLE TRACER IT WAS POSSIBLE
TO FOLLOW GROUNDWATER FLOW BY MEASUREMENT OF GAMMA RADIATION FROM CR-51 DIRECTLY IN THE FIELD AND
THEREBY TO REDUCE THE NUMBER OF WATER SAMPLES FOR PRECISE LABORATORY ASSESSMENT. BY COMPARISON
OF THE MEASURED ACTIVITIES OF CR-51 AND H-3 IT WAS POSSIBLE TO DETERMINE WHETHER THERE WAS ANY
RETARDATION OR LOSS OF THE CHROMIUM COMPLEX AS A RESULT OF ADSORPTION. SIX FIELD INVESTIGATIONS,
EACH OF ABOUT 2 MONTHS DURATION, WERE MADE IN GLACIPLUVIAL SAND AND GRAVEL. RESULTS SHOW THAT THE
CHROMIUM COMPLEX IS TRANSPORTED AS RAPIDLY AS IS TRITIUM WATER, EVEN AT LOW CONCENTRATIONS (0.01
PPM) OF THE COMPLEX. 17 FIELD INVESTIGATIONS OF 1 TO 3 MONTHS DURATION WITH THIS DOUBLE TRACER
WERE CARRIED OUT IN VARIOUS TILL (MORAIN) SOILS FOR A STUDY OF CERTAIN HYDROLOGICAL PROBLEMS.

LABORATORY TESTS WITH SOIL AND WATER FROM VARIOUS AREAS OF FIELD INVESTIGATIONS HAVE SHOWN THAT
THE CHROMIUM COMPLEX DOES NOT HYDROLYZE AT CONCENTRATIONS ABOUT 0.01 PPM. FURTHER LABORATORY TESTS
OF THE RELIABILITY OF THE CHROMIUM COMPLEX IN DIFFERENT MINERALOGICAL ENVIRONMENTS ARE IN PROGRESS.

A NUMBER OF INVESTIGATIONS OF GROUNDWATER FLOW THROUGH FISSURES AND CHANNELS WERE ALSO MADE.
WHEN THE VELOCITY OF FLOW WAS ASSUMED TO BE VERY HIGH, BR-82 AS BROMIDE ION AND RHODAMINE-B, A
FLUORESCENT ORGANIC DYE, WERE USED. EDTA-CR-51 AND TRITIUM WATER WERE USED WHEN THE VELOCITY WAS
CONSIDERED LOW OR WHEN, AS IN KARST, MANY CHANNELS OR LARGE SUBTERRANEAN WATER MAGAZINES WERE PRESUMED.
(AUTHS.)

LABORATORY METHODS, MEASUREMENT, RADIONUCLIDES, TRACERS, RADIOACTIVE TRACERS, WATER, GROUND WATER,
FLOW RATES, EDTA, ORGANIC COMPOUNDS, CR-51, H-3, GAMMA RADIATION, RADIATION, IONIZING RADIATION,
NUCLEAR RADIATION, SOILS, BR-82, RHODAMINE-B, DYES, TRITIATED WATER, MOVEMENT

04944

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A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER.

IN- RADIOISOTOPES IN HYDROLOGY. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, STI/PUB/71, PP 397-406,
1963, 2 FIGS., 1 TAB., 10 REFS.

SIMULTANEOUS MEASUREMENTS OF C-14 AND H-3 IN GROUNDWATER SAMPLES FROM DIFFERENT HORIZONS WERE
UNDERTAKEN. THE AIM WAS TO FIND OUT WHETHER THERE MIGHT BE A DECREASE IN C-14 WHICH EXCEEDS THE
RADIOACTIVE DECAY AND COULD BE ATTRIBUTED TO EXCHANGE WITH THE AQUIFER. THIS IN PRINCIPLE MIGHT
BE THE CASE DESPITE THE FACT THAT THE INITIAL C-14 CONTENT IS NOT ALTERED APPRECIABLY. A RELATIVELY
THICK BUT EXCHANGEABLE SURFACE LAYER OF INDIVIDUAL GRAINS IN THE AQUIFER COULD POSSIBLY REACH ISOTOPIC
EQUILIBRIUM IN A TIME LONG COMPARED TO THE C-14 HALF-LIFE, SO THAT DEEPER PORTIONS OF THE EXCHANGEABLE
LAYER WOULD BE LOW IN C-14. ALTHOUGH H-3 CAN ONLY COVER A RELATIVELY SHORT TIME SPAN IT MIGHT
PROVIDE A VALUABLE CHECK, SINCE ANY TYPE OF EXCHANGE MUST FOLLOW THE LAWS OF DIFFUSION AND BE PROPORTIONAL
TO THE SQUARE ROOT OF TIME, INDEPENDENT OF THE NUMERICAL VALUE OF THE DIFFUSION CONSTANT. A FEW
MEASUREMENTS MADE SO FAR OF THE SAME WELLS IN DIFFERENT YEARS SHOW ESSENTIALLY NO INCREASE FROM
BOMB C-14. THIS MIGHT BE ATTRIBUTED TO A STRATIFICATION OF DECAYING ORGANIC MATTER IN SOIL, SO
THAT THE VERY LATEST MATERIAL DOES NOT CONTRIBUTE APPRECIABLY TO THE SOLUTION OF LIME BY PERCOLATING
WATER.

MEASUREMENT, RADIONUCLIDES, C-14, H-3, WATER, GROUND WATER, RADIOACTIVE DECAY, ISOTOPE EXCHANGE,
HYDROLOGY, RADIOACTIVE AGE DETERMINATION, AGE

05051

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SOME SECOND THOUGHTS ON TRITIUM CONTAMINATION.

HEALTH PHYSICS, VOL. 13, PP 1083-1086, 1967, 3 FIGS., 3 TABS., 6 REFS.

ENCLOSING CONTAMINATED OBJECTS IN PLASTIC BAGS IS A COMMON TECHNIQUE FOR CONTAINMENT OF AIR-BORNE
RADIOACTIVITY. IT IS SHOWN THAT FOR OBJECTS EMANATING TRITIUM GAS THIS PRACTICE INCREASES THE
RADIOLOGICAL HAZARD TO PERSONNEL. THE BAG SERVES AS A REACTOR FAVORABLE TO THE FORMATION OF HTO
VAPOR, WHICH DIFFUSES THROUGH THE PLASTIC FILM FASTER THAN THE UNOXIDIZED GAS, AND IS AT LEAST
1000 TIMES MORE HAZARDOUS TO HUMANS. DIFFUSION RATES AND TIME SCALES FOR SEVERAL EXAMPLES ARE
PRESENTED. RELATED PROBLEMS OF TRITIUM GAS STORAGE AND CONTAMINATED PARTS DISPOSAL ARE BRIEFLY
DISCUSSED.

CONTAMINATION, RADIOACTIVITY, H-3, RADIONUCLIDES, GASES, DIFFUSION, WASTE DISPOSAL, RADIOACTIVE
WASTE DISPOSAL

05053

H. L. BUTLER

E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S.C.
OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT.

AIKEN, S.C., E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, DP-831, PP 38-45, 1962, 2
FIGS., 5 TABS., 11 REFS.

260 ASSIMILATIONS OF H-3, APPROXIMATING ONE MILLICURIE, HAVE OCCURRED AT THE SAVANNAH RIVER
PLANT IN THE PAST 5 YEARS. HALF LIFE OBSERVATIONS, AND EFFORTS TO CORRELATE THESE VALUES WITH
VARIABLES, ARE DISCUSSED.

HALF LIFE, EFFECTIVE HALF-LIFE, H-3, RADIONUCLIDES, ASSIMILATION, MAN, BIOLOGICAL HALF-LIFE, TEMPERATURE,
WEIGHT, AGE

05086

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ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE.

PROCEEDINGS OF THE 2ND UNITED NATIONS INTERNATIONAL CONFERENCE ON THE PEACEFUL USE OF ATOMIC ENERGY,
VOL. 18, WASTE TREATMENT AND ENVIRONMENTAL ASPECTS OF ATOMIC ENERGY. PP 336-343, 1958, 1 FIG.,
3 TABS., 16 REFS.

GLOBAL DISTRIBUTION OF H-3 AND ITS EXCHANGE BETWEEN RESERVOIRS IN NATURE ARE DISCUSSED. CONSIDERED
IN SOME DETAIL IS THE INTERCHANGE OF H-3 BETWEEN FALLING WATER DROPS AND THE SURROUNDING AIR.

SINCE A TURBULENT EXCHANGE OF H-3 IN ATMOSPHERE ALSO OCCURS, THE RELATION BETWEEN THE VERTICAL
DISTRIBUTION OF H-3 AND THE ASSOCIATED TURBULENT TRANSFER IS DISCUSSED. CONSIDERATION IS GIVEN
THE H-3 BUDGET OF LAKES AND SOILS.

RADIONUCLIDES, H-3, TRACERS, WATER, DISTRIBUTION, MIXING, EXCHANGE, WATER VAPOR, TRANSFER, LAKES,
SOILS, MATHEMATICAL ANALYSIS, VERTICAL DISTRIBUTION, ANALYSIS, PRECIPITATION (METEOROLOGICAL),
RAINFALL, ATMOSPHERE (TERRESTRIAL)

05104

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TRITIUM HEALTH PHYSICS CONSIDERATIONS.

ADVANCES IN TRACER METHODOLOGY, VOL. 1, PP 201-202, 1963, 2 TABS., 10 REFS.

RADIOACTIVE PROPERTIES OF H-3 AND MAXIMUM PERMISSIBLE CONCENTRATIONS OF TRITIATED WATER ARE
TABULATED. TOXICITY OF TRITIUM GAS AND TRITIATED WATER IS BRIEFLY DISCUSSED, AND MONITORING TECHNIQUES
ARE MENTIONED.

RADIONUCLIDES, RADIOACTIVITY, H-3, MAXIMUM PERMISSIBLE CONCENTRATION, WATER, TOXICITY, GASES, MONITORING

A. GEY

TRITIUM ET EAU TRITIEE- DUREES LIMITE DEXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE.
[TRITIUM AND TRITIATED WATER- TIME LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR REGENERATED ATMOSPHERES.]
FROM INTERNATIONAL CONFERENCE ON RADIOACTIVE POLLUTION OF GASEOUS MEDIA, SACLAY, FRANCE, U. S.

ABC REPORT CONF-337-46, 57 P., 1963, 6 FIGS., 1 TAB., 6 REFS.

ACCIDENTAL CONTAMINATION DUE TO H-3 IS TREATED, AS USUAL, AS ORIGINATING FROM TRITIATED WATER VAPOR. THIS ESTIMATION IS PESSIMISTIC IF IT IS CONSIDERED THAT TRITIUM GAS DOES NOT DIFFUSE IN THE ORGANISM ACROSS EPITHELIAL TISSUE, SLIGHTLY ACROSS PULMONARY TISSUE, AND IS OXIDIZED ONLY SLOWLY IN THE ABSENCE OF EXTERNAL CATALYSTS. IN CHOOSING AMONG THE PERHAPS CONTRADICTORY DATA THOSE THAT LEAD TO AN OPTIMISTIC OUTLOOK OF THE DANGERS ACTUALLY ENCOUNTERED, THE CURVES ARE DEFINED BEYOND WHICH THE NORMS ARE EXCEEDED. THE ACTUAL RISK IS FOUND THEN BETWEEN THESE CURVES AND THOSE FROM THE PESSIMISTIC HYPOTHESIS OF AN ABSORPTION OF COMPLETELY OXIDIZED TRITIUM IN THE FORM OF TRITIATED WATER. GRAPHIC REPRESENTATION OF THESE CURVES IN LOGARITHMIC COORDINATES MAKES POSSIBLE, BY USE OF APPROXIMATE FORMULAS, THE VERIFICATION OF DOUBTFUL OR CONTESTABLE PARAMETERS BY SIMPLE TRANSLATION OF THE CURVES (OR SECTIONS OF THE CURVES) PARALLEL TO THEMSELVES. ITS USE IS THEN NOT BOUND STRICTLY TO CHOSEN NUMERICAL VALUES IF ANALYTICAL EXPRESSIONS OF LAWS FOR SELF-OXIDATION AND ORGANIC ABSORPTION OF H-3 ARE NOT RADICALLY INTRODUCED. UNDER THESE CONDITIONS, THE CURVES MAINTAIN A CERTAIN CHARACTER OF UNIVERSALITY.

H-3, RADIONUCLIDES, WATER, CONTAMINATION, ACCIDENTS, ABSORPTION, EQUATIONS, MATHEMATICS, TISSUES, DIFFUSION, TRITIATED WATER

05144

F. BEGEMANN

UNIVERSITY OF CHICAGO, CHICAGO, ILL.

TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957.

CHICAGO, ILL., UNIVERSITY OF CHICAGO, ENRICO FERMI INSTITUTE FOR NUCLEAR STUDIES, AFOSR-TR-56-41.

71 P., 1957, 19 FIGS., 11 TABS., 11 REFS.

AVAIL. AD-154131

CONTRACT NO. AF 18(600)-564.

NUCLEAR WEAPONS TESTS MAY-JULY, 1956, PRODUCED NOTICEABLE AMOUNTS OF H-3. DATA ARE PRESENTED FOR CHICAGO (ILLINOIS), BERN (SWITZERLAND), REYKJAVIK (ICELAND), AND OTHER LOCATIONS IN THE ARTIC.

ALSO H-3 CONTENT OF MISSISSIPPI WATER WAS MEASURED CONTINUOUSLY. H-3 CONTENT OF ONE SET OF ANNUAL LAYERS OF SNOW FROM GREENLAND COVERING THE PERIOD 1944-1956 WAS MEASURED TO OBTAIN THE AMOUNT OF CASTLE AND REDWING- PRODUCED H-3 DEPOSITED AND THE NATURAL PRODUCTION RATE. THREE SETS OF SNOW SAMPLES FROM THE ANTARCTIC CONFIRMED PREVIOUS FINDS OF NO DETECTABLE BOMB H-3 IN THE AREA. MEASUREMENTS ON SAMPLES FROM STEAMBOAT SPRINGS, NEVADA, ARE GIVEN AND RESULTS AND INTERPRETATION ARE PRESENTED. H-3, RADIONUCLIDES, WATER, NUCLEAR TESTING, ACCUMULATION, SNOW, PRECIPITATION (METEOROLOGICAL), REDWING OPERATION, OPERATION CASTLE, ATMOSPHERIC NUCLEAR TESTING, DEPOSITION, POLAR REGIONS, OPERATIONS

05164

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TATA INSTITUTE OF FUNDAMENTAL RESEARCH, COLABA, BOMBAY, INDIA

THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90.

PROCEEDINGS OF THE INDIAN ACADEMY OF SCIENCE, SECTION A, VOL. 65, NO. 2, PP 73-103, 1967, 10 FIGS., 6 TABS., 19 REFS.

CONCENTRATIONS OF H-3 OCCURRING OVER THE INDIAN SUBCONTINENT DURING 1961-64 WERE DETERMINED IN WET PRECIPITATION BY A SENSITIVE METHOD FOR COUNTING H-3 ACTIVITY. THESE CONCENTRATIONS VARIED SIGNIFICANTLY DURING THE PERIOD, THE HIGHEST OF WHICH WERE OBSERVED DURING 1963. THESE NUCLIDES, ORIGINALLY PLACED AT HIGH ALTITUDES IN POLAR REGIONS DURING LATE 1962, WERE DEPOSITED CHIEFLY AT 30 TO 90 DEGREE LATITUDES DURING 1963 AND 1964 RESPECTIVELY IN RELATIVE PROPORTIONS OF 1 AND 0.6.

THE LARGEST GRADIENTS IN THEIR ZONAL DEPOSITION OCCUR ABOUT 35 TO 40 DEGREE NORTH LATITUDE. H-3 AND SR-90 DATA FOR THE INLAND, COASTAL AND ISLAND STATIONS ARE ANALYZED TO EVALUATE THE IMPORTANCE OF RE-EVAPORATION OF H-3 FROM CONTINENTS AND MOLECULAR EXCHANGE OF ATMOSPHERIC H-3 WITH OCEANIC WATER. THE ESTIMATED CONCENTRATION OF H-3 IN EVAPORATED WATER SUGGESTS THAT PRECIPITATED WATER MIXES VERY SLOWLY WITH THAT IN THE SOIL, LIMITS ON THE EQUIVALENT AMOUNT OF EXCHANGEABLE SOIL WATER ARE GIVEN. RELATIVE WET DEPOSITION OF H-3 AND SR-90 AT ISLAND AND COASTAL STATIONS IS SIMILAR TO THEIR ESTIMATED CONCENTRATION RATIO IN UPPER LEVEL TROPOSPHERIC AIR. RELATIVE CONCENTRATIONS OF H-3 AND SR-90 AT CONTINENTAL AND OCEANIC STATIONS DIFFER ONLY TO THE EXTENT EXPECTED DUE TO REINJECTION OF H-3 OVER CONTINENTS. THE MEAN ANNUAL CONCENTRATION OF SR-90 IN WET PRECIPITATION IS LOWER AT OCEANIC STATIONS COMPARED TO THAT AT CONTINENTAL STATIONS. THIS COULD BE DUE TO METEOROLOGICAL EFFECTS PECULIAR TO OCEANIC AREAS (HIGHER RAINFALL AND QUICK RECYCLING OF EVAPORATED WATER) OR A SIGNIFICANT REMOVAL OF SR-90 (H-3) BY OCEAN SPRAY AND JET ACTION.

FALLOUT, H-3, SR-90, RADIONUCLIDES, INDIA, DEPOSITION, EVAPORATION, PRECIPITATION (METEOROLOGICAL), RAINFALL, DISTRIBUTION, METEOROLOGY, SEASONAL VARIATIONS, PERIODIC VARIATIONS, MODELS, EVAPOTRANSPIRATION, WATER, RAINWATER

06185

ROY C. THOMPSON AND JOHN E. BALLOU

GENERAL ELECTRIC CO., RICHLAND, WASH.

STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER. V. THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT.

JOURNAL OF BIOLOGICAL CHEMISTRY, VOL. 233, PP 795-809, 1956, 3 FIGS., 3 TABS., 28 REFS.

U.S. ABC CONTRACT NO. W-31-109-ENG-52.

RATS EXPOSED TO A CONSTANT LEVEL OF TRITIUM OXIDE IN BODY WATER FROM CONCEPTION TO 6 MONTHS OF AGE WERE SUBSEQUENTLY KILLED AT TIME INTERVALS EXTENDING TO 300 DAYS. ANOTHER SERIES OF ANIMALS, SIMILARLY EXPOSED FOR A PERIOD OF 124 DAYS AFTER ATTAINING MATURITY, WAS SUBSEQUENTLY KILLED AT INTERVALS EXTENDING TO 360 DAYS. ORGANICALLY BOUND TRITIUM WAS DETERMINED IN VARIOUS ORGANS, TISSUES, AND COMPOUND FRACTIONS, AND THE RESULTS WERE INTERPRETED AS FOLLOWS- (1) UNDER THE DIETARY CONDITIONS EMPLOYED, WITHOUT CONSIDERATION FOR THE POSSIBLE EFFECTS OF ISOTOPIC DIFFERENTIATION, FROM 20 TO 30% OF THE HYDROGEN OF MOST TISSUE COMPOUNDS WAS DERIVED FROM BODY WATER. BRAIN AND FATTY ACIDS WERE EXCEPTIONAL, WITH NEARLY 40% OF BRAIN HYDROGEN AND ABOUT 10% OF FATTY ACID HYDROGEN DERIVED FROM BODY WATER. (2) DYNAMIC COMPONENTS (HALF LIVES OF A FEW DAYS) CONSTITUTE A VERY SMALL PROPORTION OF THE TOTAL ANIMAL, AND IN THE PRESENT EXPERIMENT WERE DISTINGUISHABLE FROM THE PREDOMINANT LESS DYNAMIC COMPONENTS ONLY IN LIVER, LUNG, STOMACH, AND INTESTINE. (3) APPROX 1/2 OF THE ORGANIC MATERIALS CONSTITUTING THE TOTAL RAT IS BEING DEGRADED AND RESYNTHESIZED WITH APPARENT BIOLOGICAL HALF-LIVES LONGER THAN 100 DAYS. (4) COLLAGEN WAS FOUND TO BE UNIQUELY INERT. MOST OF THE COLLAGEN OF MATURE RATS IS APPARENTLY NOT REPLACED DURING THE LIFETIME OF THE ANIMAL. (5) THE MAJORITY OF BODY LIPIDS, INCLUDING ABOUT 2/3 OF BOTH SATURATED AND UNSATURATED ACIDS, EXHIBIT HALF-LIVES OF THE ORDER OF 70 DAYS OR LONGER. (AUTHS.)

H-3, TRACERS, RATS, ANIMALS, MAMMALS, RODENTS, METABOLISM, HYDROGEN, TISSUES, HALF-LIFE, BIOLOGICAL HALF-LIFE, RADIONUCLIDES, ORGANS, TRITIUM OXIDE, BODY WATER

06189

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UNIVERSITY OF HEIDELBERG, GERMANY

A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE.

TELLUS, VOL. 20, NO. 4, PP 559-576, 1968, 4 FIGS., 4 TABS., 47 REFS.

THE HISTORIES OF HTO AND SR-90 FALLOUT IN THE SOUTHERN HEMISPHERE ARE COMPARED FOR THE DATA AVAILABLE TO JUNE 1966. THE SEASONAL VARIATION PATTERN (JULY-JUNE) FOR HTO IN MID-LATITUDE OCEANIC RAINWATERS IS FAIRLY CLOSELY REPRODUCED FROM YEAR TO YEAR, AND PEAKS IN LATE WINTER-SPRING. THE PEAK COINCIDES WITH THE ABSENCE OF THE TEMPERATURE INVERSION AT THE POLAR TROPOPAUSE, SUGGESTING THAT THE STRATOSPHERE-TROPOSPHERE EXCHANGE OF THE BULK OF SOUTHERN HEMISPHERE HTO FALLOUT TAKES PLACE OVER THE POLAR REGIONS. FOR SR-90 IN MID-LATITUDE RAINWATERS, THE SEASONAL VARIATION PATTERN IS NOT SO CLOSELY REPRODUCED FROM YEAR TO YEAR, BUT SHOWS A BROAD SUMMER MAXIMUM AND WINTER MINIMUM.

IT APPEARS THAT THE BULK OF THE BOMB PARTICULATE PRODUCTS MIXES SOUTHWARD WITHIN THE LOWER STRATOSPHERE AND ENTERS THE TROPOSPHERE AT MID-LATITUDES, THE SEASONAL FALLOUT VARIATION BEING SIMILAR TO THAT FOUND FOR THE NORTHERN HEMISPHERE, BUT 6 MONTHS OUT OF PHASE. CONSIDERATION OF THE BALANCE OF HTO IN THE TROPOSPHERE LEADS TO A RELATION WHICH ALLOWS A SEASONAL VARIATION PATTERN FOR THE STRATOSPHERE-TROPOSPHERE EXCHANGE OF HTO TO BE DEDUCED FROM THE RAINWATER CONCENTRATIONS. STRATOSPHERIC MEASUREMENTS OF BOMB PARTICULATE PRODUCTS ARE TAKEN INTO ACCOUNT IN AN ASSESSMENT OF SR-90 SOUTHWARD MIXING PATHS. AN ATTEMPT IS ALSO MADE TO DEDUCE THE ORIGIN AND POSSIBLE SOUTHWARD MIXING PATHS FOR THERMONUCLEAR HTO APPEARING IN THE SOUTHERN HEMISPHERE. THE HISTORY OF THE HTO/SR-90 ANNUAL (JULY-JUNE) MEAN ACTIVITY RATIO IS QUITE ERRATIC, AND IT IS NOT CONSTANT OVER THE ENTIRE SOUTHERN HEMISPHERE AT ANY ONE TIME. (AUTH.)

SR-90, RADIONUCLIDES, FALLOUT, SOUTHERN HEMISPHERE, TROPOSPHERE, SEASONAL VARIATIONS, PERIODIC VARIATIONS, STRATOSPHERE, H-3, TRITIATED WATER

06190

HANS E. SUESS
UNIVERSITY OF CALIFORNIA, SAN DIEGO, LA JOLLA, CALIF.
TRITIUM GEOPHYSICS AS AN INTERNATIONAL RESEARCH PROJECT.
SCIENCE, VOL. 163, NO. 3874, PP 1405-1410, 1969, 3 FIGS., 24 REFS.

THE UNPARALLELED PRESENCE OF ARTIFICIAL TRITIUM ON THE SURFACE OF THE EARTH PROVIDES A UNIQUE OPPORTUNITY FOR THE STUDY OF A LARGE NUMBER OF PROBLEMS IN ENVIRONMENTAL SCIENCES. THE ENVIRONMENTAL TRITIUM CAN BE USED AS A TRACER FOR WATER VAPOR IN THE ATMOSPHERE, PRECIPITATION, RUNOFF, AND GROUND WATER ON LAND, AND FOR THE VARIOUS WATER MASSES OF THE OCEANS. TO MAKE MOST USE OF THE OPPORTUNITIES PRESENTED BY THE SITUATION, A WORLDWIDE AND LONG-RANGE PROGRAM IS NEEDED. THE EXTENT OF THE PROGRAM IN TIME AND SPACE, AS WELL AS ITS MULTIDISCIPLINARY NATURE, INDICATES THE NECESSITY FOR BROAD-BASED INTERNATIONAL AND INTERINSTITUTIONAL COOPERATION. SUCH A PROGRAM IS NOW IN PROGRESS AT THE INTERNATIONAL ATOMIC ENERGY AGENCY IN COOPERATION WITH NATIONAL AND UNIVERSITY LABORATORIES OF SEVERAL COUNTRIES. THE PROGRAM MAKES USE OF A SAMPLING NETWORK FOR PRECIPITATION, ORGANIZED JOINTLY WITH THE WORLD METEOROLOGICAL ORGANIZATION. IN ADDITION TO PROVIDING DATA AS A BASIS FOR FUTURE STUDIES, THE WORK IN PROGRESS IS YIELDING IMMEDIATE RESULTS IN THE FIELD OF HYDROLOGY OF ARID REGIONS AND IN REGARD TO PROBLEMS OF WATER SUPPLY AND WATER CONTAMINATION IN DEVELOPING COUNTRIES. (AUTH.)

GEOPHYSICS, HYDROLOGY, RESEARCH, COSMIC RADIATION, H-3, METEOROLOGY, OCEANOGRAPHY

06191

J. SEDLET, J. ROBINSON, AND W. FAIRMAN
ARGONNE NATIONAL LABORATORY, LEMONT, ILL.
A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY.

IN- PROCEEDINGS OF THE FOURTH ANNUAL MEETING ON BIO-ASSAY AND ANALYTICAL CHEMISTRY, NOV. 3-4, 1958. AEC RESEARCH AND DEVELOPMENT REPORT, WASH-1023. PP 101-106, 1959, 2 TABS.

DATA ARE PRESENTED WHICH WERE OBTAINED FOLLOWING THE ACCIDENTAL EXPOSURE OF TWO MEN TO CO-60 INHALED IN DUST AND TWO TRITIUM EXPOSURES AT THE CP-5 REACTOR. DATA ON ELIMINATION OF CO-60 AND TRITIUM ARE TABULATED. THE ACCIDENTS ARE DESCRIBED AND DATA ARE INCLUDED ON RADIATION DOSAGE RECEIVED BY THE INDIVIDUALS EXPOSED.

CO-60, RADIONUCLIDES, ACCIDENTS, ELIMINATION, H-3, HALF-LIFE, MAN, BIOLOGICAL HALF-LIFE

06192

C. R. RICHMOND, J. E. PURCHNER, AND W. H. LANGHAM
LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. M.
ESTIMATION OF MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOISOTOPES IN WATER (MPC) FROM INTERSPECIES CORRELATIONS. 1. COMPARISON OF ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND TRITIUM.
NEW MEXICO, LOS ALAMOS SCIENTIFIC LABORATORY, LAMS-2526. PP 25-33, 1960, 2 FIGS., 2 TABS., 4 REFS.

DATA ARE PRESENTED ON INTERSPECIES CORRELATIONS BETWEEN EQUILIBRIUM RETENTION OF LEVELS OF ZN-65 AND TRITIUM. THE DATA WERE USED IN ESTIMATIONS OF MAXIMUM PERMISSIBLE CONCENTRATIONS OF THESE RADIOISOTOPES IN WATER.

H-3, ZN-65, RADIONUCLIDES, MAXIMUM PERMISSIBLE CONCENTRATION, WATER, MAN, RETENTION

06193

SVANTE ODBEN
INTERNATIONAL METEOROLOGICAL INSTITUTE, STOCKHOLM, SWEDEN
C-14 OCH TRITIUM ISOTOPERNAS FOERKOMST OBER SKANDINAVIEN UNDER SENARA AR MED TILLAEPPNING INOM MARKLARBRA OCH HYDROLOGI. [THE OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND HYDROLOGY.]
GRUNDFORBATTRING, VOL. 17, PP 122-142, 1964, 12 FIGS., 16 REFS.

AS A CONSEQUENCE OF THE ATOMIC BOMB TESTS DURING THE LAST DECADE, AN ARTIFICIAL LABELING BY C-14 AND TRITIUM HAS OCCURRED IN ALL NATURAL RESERVOIRS. AT THE INTERNATIONAL METEOROLOGICAL INSTITUTE IN STOCKHOLM, EFFORTS HAVE BEEN MADE TO FOLLOW THIS LABELING IN TIME AND SPACE AND TO UTILIZE IT IN COMPUTATIONS OF RESERVOIR CHARACTERISTICS SUCH AS TURNOVER TIME, EXCHANGE PROPERTIES, AND DAMPING AND MASS CHARACTERISTICS. IN ADDITION TO A GLOBAL NETWORK FOR ATMOSPHERIC TRITIUM ASSAYS, A FAIRLY DENSE NETWORK HAS BEEN SET UP OVER SCANDINAVIA, INCLUDING THE MONITORING OF BOTH ATMOSPHERIC TRITIUM (PRECIPITATION AND WATER VAPOR) AND SURFACE AND GROUND WATER TRITIUM FROM DIFFERENT RESERVOIRS.

THESE DATA ARE DISCUSSED AND CORRELATED WITH THE LONG-TERM TRITIUM VARIATIONS AS SHOWN BY OTHER STATIONS IN NORTHERN EUROPE. THE NATURAL, TIME-VARIABLE LABELING OF TRITIUM IS USEFUL IN STUDIES OF GROUND WATER BODIES AND OPEN AQUIFERS AS WELL AS IN SOIL PHYSICS AND PLANT ECOLOGY RESEARCH.

APPLICATIONS IN THESE FIELDS ARE GIVEN AND SOLUTIONS TO SOME PROBLEMS, WHICH ARE DIFFICULT TO OBTAIN BY OTHER METHODS, ARE DISCUSSED. THE MOST USEFUL INVESTIGATION TECHNIQUE IN GEOPHYSICAL AND GEOCHEMICAL STUDIES ATTEMPTS TO COMBINE CHEMICAL AND ISOTOPIC MEASUREMENTS IN ALL RESERVOIRS TAKING PART IN THE CIRCULATION OF MATTER. THE DESCRIBED NETWORK OPERATES ACCORDING TO THIS PRINCIPLE. (FROM ENGLISH ABSTRACT)

C-14, RADIONUCLIDES, H-3, SCANDINAVIA, HYDROLOGY, RESERVOIR, FALLOUT

06202

J. M. FOY AND H. SCHNIEDEN
NIGERIAN COLLEGE OF TECHNOLOGY AND UNIVERSITY COLLEGE, IBADAN, NIGERIA
ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN.
JOURNAL OF PHYSIOLOGY, VOL. 154, PP 169-176, 1960, 3 FIGS., 3 TABS., 19 REFS.

A METHOD IS DESCRIBED FOR THE RAPID ESTIMATION OF TRITIUM. THE RECOVERY OF TRITIUM IN CERTAIN BODY FLUIDS BY THIS METHOD WAS ASCERTAINED AND THE VIRTUAL TRITIUM SPACE WAS ESTIMATED IN A NUMBER OF MAMMALIAN SPECIES. IN THE RAT THIS SPACE WAS APPROXIMATELY 4% HIGHER THAN TOTAL BODY WATER ESTIMATED BY A DESICCATION PROCEDURE. THE MEAN BIOLOGICAL HALF-LIFE FOR TRITIUM IN ADULT MALE STUDENTS UNDER TROPICAL CONDITIONS WAS 7 1/2 DAYS.

H-3, RADIONUCLIDES, RATS, RODENTS, MAMMALS, ANIMALS, CATS, RABBITS, GUINEA-PIG, MAN, BIOLOGICAL HALF-LIFE, HALF-LIFE, ELIMINATION, URINE, BODY WATER, BODY FLUIDS, TROPICS

06203

J. M. FOY
NIGERIAN COLLEGE OF TECHNOLOGY, IBADAN, NIGERIA
THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT.
JOURNAL OF CELLULAR AND COMPARATIVE PHYSIOLOGY, VOL. 64, NO. 2, PP 279-282, 1964, 2 TABS., 13 REFS.

BODY WATER TURNOVER (THE BIOLOGICAL HALF-LIFE OF TRITIUM, T 1/2) WAS DETERMINED IN THE RABBIT, GUINEA-PIG, RAT AND MOUSE UNDER TROPICAL CONDITIONS. THE T 1/2 VALUE INCREASED PROGRESSIVELY (EXCEPT FOR THE RABBIT) WITH BODY SIZE. THE T 1/2 VALUE OF THE RAT SHOWED LITTLE VARIATION WITH CHANGES IN CLIMATIC CONDITION, FOR INSTANCE TROPICAL SHADE, AIR-CONDITIONED ROOM AND COLD-ROOM; SIGNIFICANT DIFFERENCES WERE ONLY RECORDED BETWEEN THE AIR-CONDITIONED AND THE COLD-ROOM. IN ALL CONDITIONS

ANIMALS DRINKING 0.9% SALINE SOLUTIONS HAD A QUICKER WATER TURNOVER. (AUTH.)
H-3, RADIONUCLIDES, BIOLOGICAL HALF-LIFE, HALF-LIFE, MICE, RATS, SALT WATER, GUINEA-PIG, RABBITS,
ANIMALS, MAMMALS, RODENTS, TEMPERATURE, WATER, ELIMINATION, TROPICS

06204

ALAN HAINES AND B. C. MUSGRAVE
UNIVERSITY OF ARKANSAS, CHEMISTRY DEPT., FAYETTEVILLE, ARK.
TRITIUM CONTENT OF ATMOSPHERIC METHANE AND ETHANE.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 73, NO. 4, PP 1167-1173, 1968, 3 FIGS., 4 TABS., 16 REFS.
U.S. ABC CONTRACT AT-(40-1)-3192.

SAMPLES OF LIQUID OXYGEN COLLECTED AT GROUND LEVEL NEAR NEOSHO, MISSOURI, WERE PROCESSED FOR RECOVERY OF METHANE, AND THE TRITIUM CONTENT OF THESE SAMPLES WAS MEASURED. THE FLUCTUATION OF THE T/H RATIO IN THESE SAMPLES IS DISCUSSED IN TERMS OF POSSIBLE SOURCES OF THIS RADIOACTIVITY. ARGUMENTS THAT THIS TRITIUM-LABELED METHANE HAS BEEN RELEASED FROM SOURCES IN NUCLEAR INDUSTRY ARE SUPPORTED BY MEASUREMENTS OF TRITIUM IN ETHANE RECOVERED FROM SOME OF THESE LIQUID OXYGEN SAMPLES. THE CONTINUING RELEASE OF LABELED METHANE BY NUCLEAR INDUSTRY IS SUGGESTED BY THE FACT THAT THE T/H RATIO HAS NOT CHANGED APPRECIABLY DURING THE PERIOD 1958 TO 1966, ALTHOUGH THIS INTERVAL IS COMPARABLE TO THE CHEMICAL LIFETIME EXPECTED FOR METHANE IN THE ATMOSPHERE.
H-3, RADIONUCLIDES, METHANE, ETHANE, GASES, NUCLEAR REACTORS, ATMOSPHERE (TERRESTRIAL)

06205

J. S. LEVENTHAL AND W. F. LIBBY
UNIVERSITY OF CALIFORNIA, DEPT. OF CHEMISTRY AND INSTITUTE OF GEOPHYSICS, LOS ANGELES, CALIF.
TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 73, NO. 8, PP 2715-2719, 1968, 5 FIGS., 1 TAB., 10 REFS.
TRITIUM FALLOUT FROM THE 1961-1962 NUCLEAR WEAPONS TEST IN THE ARCTIC WAS MEASURED IN SOUTHERN CALIFORNIA AND LAKE MICHIGAN AND AT THE POLES; AND THE STRATOSPHERE RESIDENCE TIME FOR MOISTURE WAS DEDUCED TO BE ABOUT 3 YRS. FROM THE OCEANIC TRITIUM DATA, THE YIELDS OF THE TESTS AND INCREASE IN SURFACE WATER HAVE BEEN CORRELATED. THE 1961-1962 INJECTIONS HAVE SUBSTANTIALLY INCREASED OUR KNOWLEDGE OF THE FLOW OF MOISTURE FROM THE NORTHERN STRATOSPHERE INTO THE SOUTHERN STRATOSPHERE AND INTO THE TROPOSPHERE. THESE DATA CONFIRM AND RE-ENFORCE EARLIER CONCLUSIONS ABOUT RE-EVAPORATION, RUNOFF, AND WIND TRANSPORT EFFECTS, GIVING A FIRMER BASE FOR THE CALCULATION OF THE TOTAL TRITIUM DEPOSITED AND THE ASSOCIATED PAST RAINFALL CONCENTRATIONS.
H-3, RADIONUCLIDES, FALLOUT, ATMOSPHERIC TESTING, NUCLEAR TESTING, RESIDENCE TIME, STRATOSPHERE, RAINFALL, PRECIPITATION (METEOROLOGICAL), NORTHERN PACIFIC OCEAN, PACIFIC OCEAN, OCEANS, ARCTIC, ANTARCTIC

06206

G. L. STEWART AND R. K. FARNSWORTH
U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C.
UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS.
WATER RESOURCES RESEARCH, VOL. 4, NO. 2, PP 273-289, 1968, 9 FIGS., 2 TABS., 7 REFS.
TRITIUM CONCENTRATIONS OF PRECIPITATION, TOTAL RAINOUT, AND RAINFALL AMOUNTS FOR 1964-65 ARE LISTED FOR 15 STATIONS IN THE CONTERMINOUS UNITED STATES, ALASKA, AND PUERTO RICO. THESE DATA SHOW THAT THE MAJOR INCREASE IN TRITIUM RAINOUT OBSERVED IN 1963 WAS FOLLOWED BY A DECLINE OF ABOUT 27% IN 1964 COMPARED WITH 1963, AND AN ADDITIONAL DECLINE OF ABOUT 54% IN 1965 COMPARED WITH 1964. RAINOUT PATTERNS ARE CHARACTERIZED BY INCREASES IN TRITIUM RAINOUT WITH NORTHERN LATITUDES AND WITH DISTANCE FROM THE OCEANS. THE TOTAL TRITIUM RAINOUT, BEING A FUNCTION OF BOTH CONCENTRATION AND AMOUNT OF PRECIPITATION, IS MORE RANDOM THAN AVERAGE TRITIUM CONCENTRATION. SEASONAL, ANNUAL, AND EVEN 10-YR TRITIUM PULSES HAVE PROVIDED A VALUABLE TAG FOR TRACING WATER IN MANY KINDS OF HYDROLOGICAL AND METEOROLOGICAL INVESTIGATION. THE TRITIUM DATA NOW AVAILABLE MAKE IT POSSIBLE TO ESTIMATE THE TRITIUM INPUT TO THE HYDROLOGIC ENVIRONMENT AT ANY PART OF THE UNITED STATES. (AUTHS.)
H-3, RADIONUCLIDES, RAINOUT, WASHOUT, RAINFALL, UNITED STATES, ALASKA, PRECIPITATION (METEOROLOGICAL), PUERTO RICO, HYDROLOGY, DISTRIBUTION, SEASONAL VARIATIONS, PERIODIC VARIATIONS

06207

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ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE.
HEALTH PHYSICS, VOL. 12, PP 1527-1537, 1966, 7 FIGS., 8 TABS., 19 REFS.
VOLUNTEERS WERE EXPOSED TO TRITIUM IN AIR CONCENTRATIONS 0.5-50 MICRO CURIES/L FOR 1.5-60 MIN. TRITIUM UPTAKES WERE DETERMINED BY MEASURING THE CONCENTRATION OF TRITIUM IN URINE AND ESTIMATING THE VOLUME OF BODY WATER. TRITIUM WAS ALSO MEASURED IN EXHALED WATER VAPOUR. THE INTAKE RATES FOR 3 UNPROTECTED SUBJECTS WERE 14.8, 14.8 AND 17.9 MICRO CURIES/L. THE AVERAGE SKIN INTAKE RATE FOR 17 SUBJECTS WAS 9.6 (IN THE SAME UNITS), INDIVIDUAL RATES BEING WITHIN THE RANGE 6.6-13.4. IN EXPOSURES WHEN CLOTHING AND ORONASAL MASKS WERE WORN THE INTAKES WERE AS FOLLOWS- COTTON OVERALLS--5.4-13.0; 4-MIL POLYVINYL CHLORIDE (PVC) SUITS--0.6, 1.0; 4-MIL PVC SUIT OVER COTTON OVERALLS--0.09-0.19; 6-MIL, TWO-PIECE PVC SUIT OVER COTTON OVERALLS--0.2, 0.5; OVERALLS BETWEEN TWO 4-MIL PVC SUITS--0.01-0.04. TRITIUM DISPERSED IN THE BODY FLUIDS WITH HALF-PERIODS BETWEEN 19 AND 55 MIN AND WAS ELIMINATED FROM THE BODY WITH HALF-LIVES BETWEEN 6.4 14.4 DAYS. (AUTH.)
H-3, RADIONUCLIDES, ABSORPTION, INHALATION, SKIN, CONTAMINATION, BODY WATER, URINE, BODY FLUIDS, ELIMINATION, BIOLOGICAL HALF-LIFE, MAN, HALF-LIFE

06208

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RADIOACTIVE WASTES FROM FUSION REACTORS.
SCIENCE, VOL. 159, PP 83-84, 1968, 10 REFS.
CALCULATION OF THE AMOUNT OF TRITIUM RELEASED FROM A HYPOTHETICAL FUSION REACTOR SHOWS THAT IT IS $2 \times 10^{(4)}$ THE AMOUNT RELEASED BY GENERATION OF AN EQUIVALENT AMOUNT OF ELECTRICITY BY A FISSION REACTOR. RELEASE OF THE TRITIUM GENERATED BY A POWER ECONOMY, IF THE NUCLEAR POWER WERE ALL FUSION, WOULD RESULT IN UNACCEPTABLE WORLDWIDE DOSAGES BY THE YEAR 2000. (AUTH.)
H-3, RADIONUCLIDES, RADIOACTIVE WASTES, WASTES, NUCLEAR REACTORS, NUCLEAR POWER, FUSION, FUEL

06209

P. FALLOT, A. AEBERHARDT, AND J. MASSON
COMMISSARIAT A L'ENERGIE ATOMIQUE, LABORATOIRE DE BIOLOGIE, SACLAY, FRANCE
METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE. [A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE.]
INTERNATIONAL JOURNAL OF APPLIED RADIATION AND ISOTOPES, VOL. 1, PP 237-245, 1957, 10 FIGS., 11 REFS.

A METHOD PERMITTING HTO DOSAGE IN BIOLOGICAL LIQUIDS IS PRESENTED. THE RADIOACTIVITY IS MEASURED WITH AN IONIZATION CHAMBER AFTER CONVERSION OF WATER TO GASEOUS HYDROGEN BY MEANS OF CALCIUM. THIS METHOD WAS APPLIED IN THE HUMAN TO THE STUDY OF THE VARIATION OF BLOOD RADIOACTIVITY AFTER INGESTION OF HTO, EITHER IN HEALTHY OR DISEASED SUBJECTS, OR IN OPERATED ONES. SOME CHARACTERISTIC CURVES ARE GIVEN, TOGETHER WITH DATA ON TOTAL WATER VOLUME AND THE BIOLOGICAL PERIOD OF TRITIUM IN THE HUMAN.
H-3, RADIONUCLIDES, BODY WATER, BODY FLUIDS, BIOLOGICAL HALF-LIFE, HALF-LIFE, BLOOD, ELIMINATION, MAN

06210

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DATING OF GROUNDWATER WITH TRITIUM AND C-14.

14-18 NOVEMBER 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 305-320, 1967, 10 FIGS., 10 REFS. (STI/PUB/141, SM-83/21).

SHALLOW GROUND WATER CAN BE DATED WITH SOME ACCURACY ON THE BASIS OF ITS BOMB TRITIUM CONTENT IF THE UNSATURATED SOIL COVER AND THE AQUIFER ITSELF IS SUFFICIENTLY HOMOGENEOUS. A FEW EXAMPLES FROM THE RHINE VALLEY ARE PRESENTED. THE DECREASE IN TRITIUM LEVEL FROM THE WATER TABLE TO A FEW METERS BELOW IS NEARLY TWO ORDERS OF MAGNITUDE. AGREEMENT BETWEEN THE MEASURED OR ESTIMATED VARIATION OF BOMB TRITIUM IN RAIN DURING THE PAST DECADE AND THE TRITIUM FOUND IN SHALLOW GROUND WATER CAN BE OBTAINED IF ONE TAKES INTO ACCOUNT THAT PRACTICALLY NO SUMMER RAIN REACHES THE WATER TABLE, AND WATER IS MIXED BY DIFFUSION. BOTH EFFECTS CAN ALSO BE OBSERVED IN THE SOIL MOISTURE OF THE UNSATURATED SOIL ABOVE THE WATER TABLE. C-14 INCREASE IN GROUND WATER DUE TO BOMBS IS DELAYED COMPARED TO TRITIUM, THE REASONS BEING DELAY IN THE BIOLOGICAL SYSTEM AND EXCHANGE WITH THE CARBONATE IN THE SOIL. A SIMPLE MODEL IS PRESENTED, WHICH ALLOWS THE EVALUATION OF THE INFLUENCE OF EXCHANGE ON THE C-14 AGE OBTAINED. ON THE BASIS OF THIS MODEL THE EXPERIMENTAL FINDING THAT C-14 AGES ARE USUALLY IN AGREEMENT WITH OTHER AGE ESTIMATES DESPITE THE LOSS BY EXCHANGE IS PLAUSIBLE OWING TO THE FACT THAT ONLY MATERIAL OF SUFFICIENTLY COARSE GRAIN SIZE CAN MAKE UP A REASONABLE AQUIFER. THE EXTENT OF CARBONATE EXCHANGE WAS STUDIED UNDER LABORATORY CONDITIONS IN A COLUMN. THE DELAY OF THE C-14 PULSE IN SPIKED WATER UNDER THE CONDITIONS CHOSEN IS SUCH THAT THE SPIKE TRAVELS WITH APPROX HALF THE VELOCITY OF THE VELOCITY OF THE WATER.

RADIOACTIVE AGE DETERMINATION, H-3, C-14, RADIONUCLIDES, GROUND WATER, WATER, SOIL MOISTURE, MOISTURE

06211

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NATURAL TRITIUM IN GROUNDWATER STUDIES.

IN- ISOTOPES IN HYDROLOGY. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 14-18 NOVEMBER 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 371-380, 1967, 7 FIGS., 1 TAB., 6 REFS. (STI/PUB/141, SM-83/26).

SINCE 1952 LARGE QUANTITIES OF TRITIUM HAVE BEEN INJECTED INTO THE ATMOSPHERE FROM TESTS WITH THERMONUCLEAR WEAPONS AND LARGE VARIATIONS IN THE TRITIUM CONCENTRATION OF RAIN HAVE OCCURRED. THESE VARIATIONS ARE REFLECTED IN GROUND WATER IN DIFFERENT WAYS DEPENDING ON THE HISTORY OF THE WATER. THEREFORE, TRITIUM MEASUREMENTS CAN GIVE VALUABLE INFORMATION ABOUT GROUND WATER HYDROLOGY. RAIN, RIVER WATER, GROUND WATER AND GEOTHERMAL WATER FROM VARIOUS LOCALITIES IN ICELAND HAVE BEEN SAMPLED SINCE 1960, AND ROUTINE MEASUREMENTS OF TRITIUM HAVE BEEN CARRIED OUT SINCE 1963. THE PAPER REPORTS THE TRITIUM CONCENTRATION OF THERMAL WATER FROM MAJOR GEOTHERMAL AREAS IN ICELAND TOGETHER WITH SOME MEASUREMENTS ON OTHER GROUND WATER SYSTEMS. (AUTH.)

H-3, RADIONUCLIDES, GROUND WATER, WATER, HYDROLOGY, ICELAND, RAINFALL, RAINOUT, CONCENTRATION

06212

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TRITIUM HYDROLOGY IN NEW ZEALAND.

IN- ISOTOPES IN HYDROLOGY. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 14-18 NOVEMBER 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 361-400, 1967, 7 FIGS., 8 TABS., 33 REFS. (STI/PUB/141, SM-83/27).

KNOWLEDGE GAINED FROM THE STUDY OF POST-THERMONUCLEAR CONCENTRATIONS OF HTO IN NEW ZEALAND RAINWATERS HAS BEEN APPLIED TO THE INTERPRETATION OF THE MEASURED CONCENTRATIONS IN A NUMBER OF UNDERGROUND AND SURFACE WATERS. THE RESULTS INDICATE THAT SIGNIFICANT CONCLUSIONS CAN BE DERIVED FROM THE SMALL CONCENTRATIONS AND CONCENTRATION CHANGES EXPERIENCED IN THE NEW ZEALAND ENVIRONMENT IN THE DECADE SUCCEEDING THE FIRST ATMOSPHERIC THERMONUCLEAR CONTAMINATION. THE HERETAUNGA PLAINS AND HUTT VALLEY ARTESIAN SYSTEMS ARE DISCUSSED IN SOME DETAIL. BY REQUIRING CONSISTENCY BETWEEN THE TIME OF APPEARANCE OF POST-THERMONUCLEAR HOT IN THE INPUT, THE KNOWN VALUES OF THE AQUIFER PARAMETERS AND THE MEASURED CONCENTRATIONS IN A NUMBER OF WELLS DURING 1957, IT BECOMES POSSIBLE TO ESTIMATE TRAVEL TIMES AND ALSO TO PLACE LIMITS ON THE MEAN PRE-THERMONUCLEAR CONCENTRATION OF TRITIUM IN NEW ZEALAND RAINWATERS. COMPARISON OF THE CONCENTRATIONS OF RIVER AND ARTESIAN WATERS OVER A PERIOD OF SOME YEARS ALLOWS AN EXACT DETERMINATION OF AQUIFER TRAVEL TIME TO THE MAIN WITHDRAWAL POINT. MEASUREMENTS, WHICH ARE IN GOOD AGREEMENT WITH GEOLOGICAL EVIDENCE, ARE REPORTED FOR WATERS TAKEN FROM DIFFERENT LEVELS OF A TEST BORE PENETRATING THE DIFFERENT STRATA OF THE SYSTEM. WATERS FROM THE WAIKATO-HAURAKI ARTESIAN SYSTEM, WHERE THE SEDIMENTS ARE MUCH FINER THAN THOSE OF THE HERETAUNGA PLAINS AND HUTT VALLEY SYSTEMS, ARE FOUND TO BE PRE-THERMONUCLEAR IN ORIGIN. MEASUREMENTS ARE REPORTED FOR STREAM WATER FROM THE WAIRAKEI GEOTHERMAL AREA INDICATING A SPRING RECHARGE OF CONSIDERABLE AGE AND ONLY SMALL OF SURFACE RUNOFF.

H-3, RADIONUCLIDES, HYDROLOGY, NEW ZEALAND, RAINWATER, WATER, CONCENTRATION (PROCESS)

06213

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OXYGENE-18 ET TRITIUM DANS LE BASSIN DEVIEN. [OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN.]

IN- ISOTOPES IN HYDROLOGY. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 14-18 NOVEMBER 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 401-415, 1967, 6 FIGS., 4 TABS., 10 REFS. (STI/PUB/141, SM-83/28).

ISOTOPIC SURVEYS OF THE EVIAN BASIN (PRECIPITATION, SURFACE SYSTEM, TEST WELLS AND SPRINGS) HAVE BEEN GOING ON SINCE 1962. MEASUREMENT OF OXYGEN-18 AND TRITIUM CONTENT HAVE MADE IT POSSIBLE TO DETERMINE THE MEAN HEIGHT OF THE DRAINAGE AREA AND TO CONSIDER VARIOUS HYPOTHESES IN CONNECTION WITH THE HYDRODYNAMICS OF THE WATER TABLE. IT HAS ALSO BEEN POSSIBLE TO DETERMINE THE BEHAVIOR OF RECENT METEORIC WATER AND ITS POSSIBLE CONTRIBUTION TO THE WATER-TABLE SUPPLY. THE DATA DERIVED FROM HYDROLOGICAL STUDIES ARE IN GOOD AGREEMENT WITH THE SET OF ISOTOPIC RESULTS. THE ISOTOPIC MEASUREMENTS HAVE ALSO BEEN USED TO PLAN THE CATCHMENT AREA EQUIPMENT AND TO FIX THE TEST-WELL SITES.

IN VIEW OF THE THEORETICAL AND EVEN ECONOMIC IMPORTANCE OF SUCH COORDINATED ISOTOPIC STUDIES, IT IS PROPOSED THAT SYSTEMATIC SAMPLING BE ORGANIZED ON AN INTERNATIONAL SCALE ON THE SITE OF THE MAIN CATCHMENT AREAS PRESENTING SERIOUS HYDROGEOLOGICAL PROBLEMS. (AUTHS.)

O-18, H-3, RADIONUCLIDES, HYDRODYNAMICS, FRANCE, SAMPLING, WATER TABLE, TABLE

06214

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EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE SUD-OUEST DE LA FRANCE. [EVOLUTION OF TRITIUM ACTIVITY IN THE SOUTHWEST OF FRANCE.]

IN- ISOTOPES IN HYDROLOGY. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 14-18 NOVEMBER 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 417-432, 1967, 7 FIGS., 1 TAB., 12 REFS. (STI/PUB/141, SM-83/30).

THE 250 OR SO ANALYSES CARRIED OUT SHOW THAT CHANGES IN ACTIVITY OF RAINWATER VARY RATHER CONSIDERABLY, WITH A FAIRLY MARKED OVERALL DECREASE OVER THE PERIOD OF ABOUT 30 MONTHS DURING WHICH OBSERVATIONS HAVE BEEN IN PROGRESS. ONE OF THE LAKES IN THE DUNES ALONG THE COAST OF AQUITAINE, LAKE CAZAUX, REPRESENTS A SPECIAL CASE BY VIRTUE OF ITS HYDROLOGICAL AND HYDRODYNAMIC FEATURES.

THE FACT THAT THIS LAKE, WITH AN AREA OF ABOUT 60 KM², HAS NO NOTABLE SOURCE OF SUPPLY OTHER THAN PRECIPITATION MAKES IT A SEASONAL INTEGRATOR OF THE WIDE VARIATIONS IN THE LEVEL OF TRITIUM ACTIVITY IN RAINWATER. A COMPARISON WITH OTHER LAKES SEEMS TO CONFIRM THIS HYPOTHESIS. IT WAS FOUND THAT THERE IS A CONSIDERABLE LAPSE OF TIME BEFORE PERIODS OF MAXIMUM RAINFALL ARE FOLLOWED BY AN INCREASE IN THE ACTIVITY OF SURFACE WATER LAYERS. THE MEAN ACTIVITIES OF SOME PLANTS ARE SIMILAR TO THOSE FOUND IN THE WATER OF CLAYS AND THE LAKE WATERS.

H-3, RADIONUCLIDES, FRANCE, RAINWATER, GROUND WATER, WATER, LAKES, SEASONAL VARIATIONS, PERIODIC VARIATIONS

06215

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DETTES NUCLEAIRES DE GRENOBLE. [TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE NUCLEAR RESEARCH CENTRE.]

IN- ISOTOPES IN HYDROLOGY. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 14-18 NOVEMBER 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 433-450, 1967, 17 FIGS., 6 REFS. (STI/PUB/141, SM-83/31).

IN THE LATITUDES IN WHICH THESE STUDIES WERE CONDUCTED, THE WATER FROM PRECIPITATION SHOWS AN ANNUAL MAXIMUM OF TRITIUM CONCENTRATION IN JUNE. IT IS SHOWN HOW THE SIGNAL CAN BE USED TO ESTABLISH CORRELATIONS BETWEEN THE LOSSES FROM AN AQUIFER AND RESURGENCE ABOUT 30 KM AWAY, BY MEANS OF A SERIES OF SYSTEMATIC MEASUREMENTS OF THE PRECIPITATION SUPPLYING AQUIFERS AND SPRINGS. THESE MEASUREMENTS HAVE BEEN VALUABLE IN A TRIAL PROJECT INVOLVING A GAMMA-EMITTING TRACER. THE CETA (NETWORK FOR THE COLLECTION OF ATMOSPHERIC HTO) WAS SET UP WITH THE COLLABORATION OF THE NATIONAL METEOROLOGICAL SERVICE. IT IS CONCERNED WITH THE COLLECTION AND MEASUREMENT OF MONTHLY SAMPLES COLLECTED AT 26 STATIONS SPREAD FAIRLY EVENLY ACROSS FRANCE. ITS PURPOSE IS TWO-FOLD-PRIMARILY TO CONSTITUTE A BANK OF SAMPLES, OR SAMPLING DATA, FOR USE IN ANY SUBSEQUENT HYDROLOGICAL STUDIES CARRIED OUT IN FRANCE; AND SECONDLY, TO PERMIT STUDY OF THE SPATIAL DISTRIBUTION OF TRITIUM FALLOUT.

VERY INTERESTING RESULTS IN THE FORM OF TRITIUM ISOCONCENTRATION CURVES, HAVE DISCLOSED A SEA/CONTINENT EFFECT, WHEREBY TRITIUM CONCENTRATIONS INCREASE AS ONE MOVES INLAND. IT IS HOPED THAT THESE MEASUREMENTS WILL PROVIDE IMPORTANT INFORMATION ON THE MOVEMENTS OF ATMOSPHERIC WATER IN FRANCE.

H-3, RADIONUCLIDES, HYDROLOGY, SAMPLING, GEOLOGY, FALLOUT, FRANCE, PRECIPITATION (METEOROLOGICAL), KARST, CONCENTRATION (PROCESS)

06218

G. H. DAVIS, B. R. PAYNE, T. DINCER, T. FLORKOWSKI, AND T. GATTINGER

G. H. DAVIS, B. R. PAYNE, T. DINCER, AND T. FLORKOWSKI, INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA; T. GATTINGER, GEOLOGISCHE BUNDESANSTALT, VIENNA, AUSTRIA

SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA.

IN- ISOTOPES IN HYDROLOGY. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 14-18 NOVEMBER 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 451-473, 1967, 9 FIGS., 1 TAB., 11 REFS., (STI/PUB/141, SM-83-32).

MONTHLY ANALYSES OF TRITIUM FROM 22 SOURCES OF GROUND WATER OF THE VIENNA BASIN HAVE BEEN MADE SINCE APRIL 1965 WITH A VIEW TO ELUCIDATING THE COMPLEX GROUND WATER-SURFACE WATER RELATIONS AND ASCERTAINING THE MOVEMENT OF GROUND WATERS. THE SOURCES ARE CLASSIFIED BROADLY INTO 4 GROUPS-

(1) NON-THERMAL SPRINGS INCLUDING KARST SPRINGS OF THE BORDERING MOUNTAINS; (2) THERMAL SPRINGS RISING ALONG FAULTS THAT BORDER THE FLOOR OF THE VIENNA BASIN; (3) WELLS ON THE FLOOR OF THE BASIN; AND (4) LARGE GROUND-WATER OVERFLOWS ON THE FLOOR OF THE BASIN. THE FOLLOWING ARE AMONG SIGNIFICANT FINDINGS- ALL GROUND WATERS SAMPLED SHOWED THE EFFECT OF LOCAL RECHARGE BY HIGH H-3 PRECIPITATION IN THE EXCEPTIONALLY WET SUMMER OF 1965; GROUND-WATER OVERFLOWS THOUGHT TO REPRESENT DISCHARGE FROM THE MAIN GROUND-WATER RESERVOIR WERE GENERALLY HIGHER IN TRITIUM THAN OTHER GROUND WATERS INDICATING RAPID SHALLOW CIRCULATION FROM NEARBY STREAMS. THERMAL SPRINGS BELIEVED REPRESENTATIVE OF DEEP CIRCULATION ALL SHOWED THE EFFECT ON MIXING WITH SHALLOW WATERS RECHARGED FROM CURRENT PRECIPITATION. ALL SHOWED APPRECIABLE TRITIUM CONTENT, EVEN AT THE MINIMUM LEVELS. THE HIGHEST TRITIUM CONTENTS IN WELL-WATERS WERE FROM THE UPPER PART OF THE BASIN WHERE WATER LEVELS ARE VERY DEEP AND STREAMS LOSE WATER IN CROSSING THE ALLUVIUM. WELL-WATERS IN THE AREA OF SHALLOW WATER IN THE LOWER BASIN WERE GENERALLY LOWER IN TRITIUM THAN THOSE OF THE UPPER BASIN, BUT ALL SHOWED THE EFFECT OF RECHARGE IN THE SUMMER 1965. SAMPLES TAKEN DURING DRILLING OF A DEEP EXPLORATORY WELL SHOW A DECREASE IN TRITIUM WITH DEPTH, BUT EVEN AT 140 M DEPTH THE TRITIUM CONTENT WAS 12 T.U. INDICATING RELATIVELY RAPID CIRCULATION THROUGHOUT THE PRINCIPAL AQUIFER. (AUTHS.) SEASONAL VARIATIONS, PERIODIC VARIATIONS, H-3, RADIONUCLIDES, WATER, PRECIPITATION (METEOROLOGICAL), GROUND WATER, AUSTRIA, KARST, MODELS, MIXING, SURFACE WATERS

06217

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METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY GROWING CHLORELLA PYRENOIDOSA CELLS.

ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, VOL. 50, PP 160-168, 1954, 1 FIG., 2 TABS., 13 REFS. U.S. AEC CONTRACT NO. W-31-109-ENG-52.

THE CELLS INCORPORATE DEUTERIUM APPROX 50% AS RAPIDLY AS HYDROGEN, AND TRITIUM 90% AS RAPIDLY AS DEUTERIUM. THE EXTENT OF INCORPORATION OF TRITIUM OR DEUTERIUM BY THE ENZYMES INVOLVED IN HYDROGEN TRANSFER IN THE SYNTHESIS OF LIPIDES IS SIGNIFICANTLY HIGHER THAN THE EXTENT OF INCORPORATION BY ENZYMES INVOLVED IN THE TRANSFER OF HYDROGEN IN THE SYNTHESIS OF PROTEINS, NUCLEIC ACIDS, AND STARCH. H-3, RADIONUCLIDES, METABOLISM, CHLORELLA, ALGAE, CHLOROPHYTA, PLANTS, DEUTERIUM, TRACERS

06216

H. O. REEDER

TRITIUM CONTENT AS AN INDICATOR OF AGE AND MOVEMENT OF GROUND WATER IN THE ROSWELL BASIN, NEW MEXICO.

U.S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 501 C, PP 161-163, 1964, 1 FIG., 4 REFS.

ALL SAMPLES OF WATER FROM THE ROSWELL BASIN WERE IN PART LESS THAN 35 YRS OLD. SOME OF THE WATER HAS MOVED 5 TO 15 MILES IN LESS THAN 5 YRS, INDICATING MUCH FASTER GROUND-WATER MOVEMENT THAN PREVIOUSLY REGARDED AS LIKELY.

H-3, RADIONUCLIDES, GROUNDWATER, WATER, MOVEMENT, AGE, TRACERS, NEW MEXICO, CONCENTRATION (PROCESS)

06219

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VOLUME AND TURNOVER OF BODY WATER IN DIPDOMYS DESERTI WITH TRITIATED WATER.

PROCEEDINGS OF THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE, VOL. 104, PP 9-11, 1960, 1 FIG. 2 TABS., 12 REFS.

MEAN EXCHANGEABLE BODY WATER CONTENT AS MEASURED BY THE TRITIUM WATER DILUTION METHOD, WAS 62.37 OF THE BODY WEIGHT FOR 20 KANGAROO RATS. WHEN MAINTAINED ON A DIET OF PEARLED BARLEY ONLY, 2 GROUPS OF ANIMALS SHOWED MEAN TURNOVER TIMES FOR EXCHANGEABLE BODY WATER OF 13.9 AND 22.1 DAYS.

THIS IS MUCH LONGER THAN THAT FOUND IN THE ORDINARY WHITE RAT AND IN OTHER MAMMALS AND PRESENTS AN ADAPTATION TO A XERIC ENVIRONMENT.

H-3, RADIONUCLIDES, BODY WATER, BODY FLUIDS, KANGAROO RAT, ANIMALS, MAMMALS, RODENTS, BIOLOGICAL HALF-LIFE, HALF-LIFE, ELIMINATION, XEROPHIL, METABOLISM

06220

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STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER. 1. GROSS STUDIES ON THE MOUSE.

JOURNAL OF BIOLOGICAL CHEMISTRY, VOL. 197, PP 81-87, 1952, 2 FIGS., 4 REFS.

THE RETENTION OF TRITIUM ACTIVITY IN THE BODY WATER AND IN THE DRY CARCASS WAS DETERMINED.

THE BIOLOGICAL HALF-LIFE OF BODY WATER IN THE MOUSE WAS FOUND TO BE APPROXIMATELY 1.1 DAYS. THE CURVE OF LOSS OF TRITIUM FROM THE TISSUE-BOUND STATE WAS RESOLVABLE INTO COMPONENTS OF 9-DAY AND 90-DAY HALF-LIFE, WHICH WERE SHOWN TO BE OF COMPARABLE TRITIUM-BINDING CAPACITY. THESE COMPONENTS ARE THOUGHT TO REPRESENT, RESPECTIVELY, THE GROUP OF RELATIVELY DYNAMIC BODY CONSTITUENTS AND THE GROUP OF RELATIVELY STABLE BODY CONSTITUENTS.

H-3, RADIONUCLIDES, METABOLISM, MICE, ANIMALS, MAMMALS, RODENTS, BODY WATER, BODY FLUIDS, BIOLOGICAL HALF-LIFE, HALF-LIFE, ELIMINATION, TISSUES

06221

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TRITIATED WATER AS A TOOL FOR ECOLOGICAL FIELD STUDIES.

SCIENCE, VOL. 147, PP 148-149, 1965, 1 TAB.

U.S. AEC CONTRACT NO. AT(07-2)-1.

WATER FROM SOIL AT 3 DEPTHS. WITHIN 4 HRS OF PLACEMENT AT EACH DEPTH, TRITIUM WAS DETECTED IN THE TRANSPIRED WATER FROM NEARBY TREES. ON THE 3RD DAY AFTER APPLICATION, 38 TIMES MORE TRITIUM (PER UNIT VOLUME) WAS PRESENT IN TRANSPIRED WATER DRAWN FROM SOIL AT A DEPTH OF 0 TO 30.5 CM THAN IN WATER DRAWN FROM THE 81 TO 91.5 CM LEVEL. (AUTH.)
H-3, RADIONUCLIDES, TRANSPIRATION, TREES, PLANTS, TRACERS, WATER, ABSORPTION, SOIL MOISTURE, DEPTH

06222

A. G. EVANS

B. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER LABORATORY, AIKEN, S. C.
NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES.

HEALTH PHYSICS, VOL. 16, NO. 1, PP 57-63, 1969, 6 FIGS., 3 TABS., 12 REFS.

U.S. AEC CONTRACT NO. AT(07-2)-1.

ESTIMATES OF THE RADIATION DOSE FROM ASSIMILATION OF TRITIUM OXIDE, THE COMMON FORM OF ENVIRONMENTAL TRITIUM, ARE BASED ON THE ASSUMPTION THAT TRITIUM REMAINS IN BODY WATER UNTIL EXCRETED. ANALYSES OF DEER TISSUES, HOWEVER, INDICATE THAT CHRONIC EXPOSURE TO TRITIUM CAUSES SIGNIFICANT LABELING OF ORGANIC MOLECULES. THE DEGREE OF LABELING WAS DETERMINED FROM TRITIUM ASSAYS OF 7 TISSUES (HEART, LIVER, KIDNEY, SPLEEN, BRAIN, MUSCLE, AND FAT) FROM 52 DEER COLLECTED ON THE SAVANNAH RIVER PLANT SITE. IN MOST TISSUES, THE T/H RATIOS IN BOTH BODY WATER AND THE WATER OF COMBUSTION OF DRIED TISSUES WERE THE SAME. THIS INCORPORATION OF TRITIUM IN THE ORGANIC COMPONENT OF DEER TISSUE RESULTS IN WHOLE BODY DOSES 1.4 TO 1.5 TIMES HIGHER THAN ESTIMATED IF ONLY TRITIUM IN BODY WATER IS CONSIDERED. (AUTH.)

H-3, RADIONUCLIDES, DOSE ESTIMATION, ASSIMILATION, DEER, ANIMALS, FAT, MAMMALS, BODY WATER, BODY FLUIDS, RADIATION EXPOSURE, TISSUES, HEART, LIVER, KIDNEY, SPLEEN, BRAIN, MUSCLE, BODY BURDEN, TRITIUM OXIDE, T/H RATIO, ORGANS

06223

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NEUBESTIMUNG DER NATÜRLICHEN IRDISCHEN TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES NATÜRLICHEN TRITIUM. [REDETERMINATION OF NATURAL TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE OF NATURAL TRITIUM.]

ZEITSCHRIFT FÜR NATURFORSCHUNG, VOL. 14A, PP 334-342, 1959, 7 FIGS., 6 TABS., 45 REFS.

THE TRITIUM DECAY RATE IS ABOUT 10 TIMES HIGHER THAN WAS ANTICIPATED PREVIOUSLY. TWO MECHANISMS TO EXPLAIN THE DISCREPANCY ARE DISCUSSED, (1) PRODUCTION BY THE LOW ENERGY COMPONENT OF THE COSMIC RADIATION AND (2) THE ACCRETION OF SOLAR TRITIUM BY THE EARTH. IT IS SHOWN THAT IN CASE ALL THE TRITIUM IS PRODUCED BY COSMIC RADIATION THE TROPOSPHERIC PRODUCTION RATE MAY BE EXPECTED TO VARY IN ANTIPHASE WITH THE SUNSPOT CYCLE, WHEREAS IN CASE OF ACCRETION OF SOLAR TRITIUM BY THE EARTH THE VARIATION SHOULD BE IN PHASE WITH THE SUNSPOT CYCLE. IN BOTH CASES A PHASE SHIFT BETWEEN THE STRATOSPHERIC PRODUCTION RATE AND THE AMOUNT OF TROPOSPHERIC TRITIUM IS TO BE EXPECTED BECAUSE OF THE RESIDENCE TIME OF TRITIUM IN THE STRATOSPHERE. A MEASUREMENT OF THE PHASE SHIFT SHOULD ALLOW TO DETERMINE THIS RESIDENCE TIME. THE DATA SHOW A VARIATION OF THE PRODUCTION RATE. THE RESULTS CAN BE EXPLAINED BEST BY ASSUMING THAT ALL THE TRITIUM IS PRODUCED BY COSMIC RADIATION. H-3, RADIONUCLIDES, RADIOACTIVE DECAY, COSMIC RADIATION, RADIATION, IONIZING RADIATION, RESIDENCE TIME, STRATOSPHERE, TROPOSPHERE, SNOW, GREENLAND

06224

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RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS.

RADIATION BOTANY, VOL. 5, PP 257-263, 1965, 3 PLS., 4 TABS., 19 REFS.

MATURE PLANTS CULTURED FOR APPROX 90 DAYS WERE LABELED AT 86.2 MICRO CURIES OF C-14 AND 337.8

MICRO CURIES OF TRITIUM/G OF CARBON AND HYDROGEN, RESPECTIVELY. C-14 LABELED PLANTS DEVELOPED A SIGNIFICANTLY GREATER NUMBER OF VISIBLE MAIN AXIS NODES THAN CONTROLS WHILE TRITIUM LABELED PLANTS DEVELOPED FEWER. BOTH TYPES OF PLANTS YIELDED SIGNIFICANTLY FEWER PODS AND SEED THAN CONTROLS.

TRITIUM LABELED PLANTS DEVELOPED TUMOR-LIKE ENLARGEMENTS AT THE STEM-TIP REGIONS; THE YOUNGEST LEAVES EXHIBITED YELLOW OR WHITE CHLOROPHYLL-DEFICIENT AREAS. ROOTS OF C-14 LABELED PLANTS DEVELOPED NUMEROUS NODULE-LIKE STRUCTURES. BOTH TYPES OF LABELED SEED DID NOT DIFFER FROM THE CONTROL SEED IN FATTY ACID COMPOSITION AND IN PERCENT OIL. THESE LABELED SEEDS PLANTED SHORTLY AFTER HARVEST DEVELOPED INTO NORMAL-LOOKING PLANTS. AFTER STORAGE FOR 44 WEEKS BOTH THE C-14 AND TRITIUM LABELED SEED LOTS GERMINATED BUT THE FORMER FAILED TO SURVIVE. SEEDLINGS FROM TRITIUM LABELED SEED STORED FOR 44 WEEKS GREW NORMALLY EXCEPT FOR SOME LEAF-PIGMENT ANOMALIES IN THE PRIMARY LEAVES. C-14, H-3, RADIONUCLIDES, SOYBEANS, CROPS, LEGUMES, PLANTS, GROWTH, RADIATION EFFECTS

06225

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ABSORPTION AND METABOLISM OF TRITIUM OXIDE AND TRITIUM GAS BY BEAN PLANTS.

PLANT PHYSIOLOGY, VOL. 28, PP 717-723, 1953, 4 FIGS., 1 TAB., 8 REFS.

UPTAKE WAS QUITE RAPID FOR THE FIRST FEW HRS, BUT EQUILIBRIUM BETWEEN PLANT WATER AND NUTRIENT MEDIUM WAS NOT ATTAINED IN THE 72-HR EXPERIMENTAL PERIOD. THIS LACK OF COMPLETE TRITIUM OXIDE EQUILIBRATION MAY BE DUE TO SLOW DILUTION OF COLLOIDALLY BOUND WATER, OR POSSIBLY TO AN ISOTOPE EFFECT. THE RATE AND EXTENT OF TRITIUM INCORPORATION IN THE PLANT TISSUE COMPOUNDS CAN BE CORRELATED DIRECTLY WITH THE METABOLIC ACTIVITY OF THE TISSUE CONCERNED. ABSORPTION OF TRITIUM OXIDE AND INCORPORATION OF TRITIUM IN PLANT COMPOUNDS WAS SLIGHTLY GREATER FROM A NUTRIENT MEDIUM OF PH 4 THAN FROM A NUTRIENT MEDIUM OF PH 7. BOTH TRITIUM OXIDE ABSORPTION AND TRITIUM INCORPORATION IN PLANT COMPOUNDS WAS MARKEDLY REDUCED IN PLANTS GROWN IN THE DARK. THE EXPOSURE OF A PLANT LEAF TO TRITIUM GAS RESULTED IN HIGH CONCENTRATIONS OF TRITIUM IN THE PLANT WATER OF THE EXPOSED LEAF, MUCH SMALLER AMOUNTS IN THE PLANT WATER FROM OTHER TISSUES, AND ONLY VERY SLIGHT INCORPORATION IN TISSUE COMPOUNDS. H-3, RADIONUCLIDES, ABSORPTION, METABOLISM, KIDNEY BEANS, BEANS, PH, CROPS, LEGUMES, PLANTS, VEGETABLES, RETENTION, LIGHT

06226

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MONITORING FOR TRITIUM AT LOW LEVELS.

IN- ASSESSMENT OF AIRBORNE RADIOACTIVITY. PROCEEDINGS OF A SYMPOSIUM, HELD IN VIENNA, 3-7 JULY 1967. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 479-490, 1967, 10 FIGS., 8 REFS. (STI/PUB/159, SM-95/20).

TRITIUM PRESENTS LITTLE EXTERNAL RADIATION HAZARD BECAUSE THE BETA RAYS IT EMITS HAVE VERY LOW ENERGY. PRODUCED BY NEUTRON CAPTURE IN HEAVY WATER REACTORS IS IN THE FORM OF HTO WHICH, IF IT ESCAPES INTO THE AIR, MAY BE ABSORBED INTO THE BODY THROUGH THE LUNGS AND SKIN. DIRECT MEASUREMENT OF TRITIATED WATER VAPOR IN AIR AT LEVELS BELOW ONE (MPC) IS DIFFICULT WITH EXISTING INSTALLED OR PORTABLE MONITORS. HOWEVER, AN INDIRECT MEASUREMENT CAN BE OBTAINED BY MAKING FREQUENT ROUTINE DETERMINATIONS OF THE AMOUNT OF TRITIUM ABSORBED BY THE WORKERS WHO ARE CHRONICALLY EXPOSED. IN ADDITION, INDIVIDUAL DOSES MAY BE ESTIMATED DIRECTLY. FOR THIS APPROACH TO AREA MONITORING TO BE USEFUL TO A HEALTH PHYSICIST, RAPID, DIRECT MEASUREMENT OF HTO INTAKE IS NEEDED. ANALYSES FOR TRITIUM CARRIED OUT IN THE LABORATORY USUALLY INVOLVE DELAYS, SO AN AUTOMATIC URINALYSER HAS BEEN DEVELOPED. IT WILL DETECT BODY BURDENS OF TRITIUM RESULTING FROM CHRONIC EXPOSURES TO 0.05 (MPC)A. URINE IS VOIDED INTO A URINAL ATTACHED TO THE ANALYSER, A SAMPLE IS AUTOMATICALLY METERED AND MIXED WITH LIQUID SCINTILLATOR AND THE TRITIUM ACTIVITY IS THEN MEASURED. THE ASSAY TAKES LESS THAN 2 MINUTES. PERFORMANCE OF THE INSTRUMENT IS AUTOMATICALLY CHECKED BY PROCESSING STANDARD AND BACKGROUND SAMPLES. THIS METHOD MAY ALSO BE FOR MONITORING PLANNED ACUTE EXPOSURES. THE SENSITIVITY IS 5 (MPC)AH, ALTHOUGH ACCURATE MEASUREMENTS CAN ONLY BE MADE WHEN THE HTO HAS DISPERSED THROUGHOUT

THE BODY, 1 TO 2 HRS AFTER THE EXPOSURE. TRITIUM HAZARDS AT SPECIFIC PLACES MAY BE MONITORED BY COLLECTING AIRBORNE HTO IN WATER BUBBLERS AND THE MEASURING THE COLLECTED TRITIUM WITH THE URINALYSER. CONCENTRATIONS OF HTO IN AIR DOWN TO 0.01 (MPC)A MAY BE DETECTED. SINCE NO MANUAL PROCESSING OF URINE OR OTHER AQUEOUS SAMPLES IS NEEDED THE INSTRUMENT IS WELL SUITED TO THOSE NUCLEAR INSTALLATIONS, SUCH AS POWER STATIONS, WHERE MINIMAL LABORATORY BACK-UP FACILITIES ARE AVAILABLE. (AUTHS.) H-3, RADIONUCLIDES, ABSORPTION, BETA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, RADIATION, URINE, INSTRUMENTS, BODY BURDEN, MAN, MONITORING, TRITIATED WATER

06227

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TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN. INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES.
IN- RADIOACTIVE DATING METHODS OF LOW-LEVEL COUNTING. PROCEEDINGS OF A SYMPOSIUM HELD IN MONACO, 2-10 MARCH 1967. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 93-104, 1967, 8 FIGS., 1 TAB., 22 REFS. (STI/PUB/152, SM-87/22).
ON THE 1965 ATLANTIC CRUISE OF THE GERMAN RESEARCH VESSEL METEOR, (IOSY EXPEDITION), A SAMPLING PROGRAM WAS INITIATED INCLUDING ATMOSPHERIC CO(2) AND SURFACE WATER FOR C-14 ANALYSIS, AND ATMOSPHERIC WATER VAPOUR AND DEPTH PROFILES FOR TRITIUM ANALYSIS. ON FOLLOWING SHORTER METEOR CRUISES IN THE NORTHERN ATLANTIC THIS PROGRAM WAS CONTINUED, AND HAS RECENTLY BEEN EXTENDED TO C-14 PROFILES DOWN TO A DEPTH OF 1000 M. THIS PAPER PRESENTS RESULTS OBTAINED SO FAR FOR SURFACE-WATER SAMPLES AND DEPTH PROFILES. THE SURFACE-WATER SAMPLES OF BOTH C-14 AND TRITIUM SHOW A MAXIMUM AT MID LATITUDES AND A DISTINCT DROP AT THE EQUATOR. EXCLUDING SAMPLES ON OR NEAR THE SHELF LEAVES A RATHER SMOOTH LATITUDINAL DISTRIBUTION OF SURFACE CONCENTRATIONS. DEPTH PROFILES OF TRITIUM SHOW THAT IN HIGHER LATITUDES THE TRITIUM HAS PENETRATED TO A CONSIDERABLE DEPTH, WHEREAS NEAR THE EQUATOR THE BULK IS STILL CONTAINED IN THE MIXED LAYER. PRESUMING THE C-14 DEPTH PROFILES TO BE SIMILAR TO THOSE OF TRITIUM, AND COMPARING THEM TO ATMOSPHERIC CONCENTRATIONS OF THE LAST DECADE, YIELDS THE OCEANIC INVENTORY OF C-14 AND AN ESTIMATE OF THE CO(2) EXCHANGE VELOCITY ATMOSPHERE OCEAN AS A FUNCTION OF LATITUDE. THE DATA INDICATE A LATITUDE-DEPENDENT EXCHANGE VELOCITY OF CO(2) IN THE RANGE FROM 0.7 TO 3.2 KM/YR WITH AN AVERAGE OF AROUND 2.1 KM/YR, WHICH CORRESPONDS TO AN EXCHANGE TIME OF 5.4 YR. SINCE THE PAST VERTICAL MIXING AT HIGH LATITUDES IN CONNECTION WITH TRANSPORT BY OCEAN CURRENTS MAY ALSO RESULT IN A NORTH-SOUTH GRADIENT OF THE C-14 INVENTORY, THE LATITUDINAL DEPENDENCE OF THE EXCHANGE VELOCITY CALCULATED FROM THE MEASURED DATA IS CONSIDERED TO BE AN UPPER LIMIT ONLY. (AUTHS.)
ATMOSPHERE (TERRESTRIAL), C-14, H-3, RADIONUCLIDES, DEPTH, OCEANS, SURFACE WATERS, CIRCULATION, MIXING, ATLANTIC OCEAN

06228

K. O. DOCKINS, A. E. BAINBRIDGE, J. C. HOUTERMANS, AND H. E. SUESS
H. E. SUESS, UNIVERSITY OF CALIFORNIA, SAN DIEGO, SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA, CALIF.
TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN.
IN- RADIOACTIVE DATING METHODS OF LOW-LEVEL COUNTING. PROCEEDINGS OF A SYMPOSIUM HELD IN MONACO, 2-10 MARCH 1967. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 129-141, 1967, 2 FIGS., 2 TABS. 7 REFS. (STI/PUB/152, SM-87/54).
SOME 350 SAMPLES OF SURFACE WATER COLLECTED BETWEEN LATE 1959 AND MID-1966 WERE ANALYSED FOR TRITIUM IN A CONTINUING ATTEMPT TO DETERMINE THE AGE (VIZ., THE AVERAGE LIFETIME BEFORE TRANSFER INTO ANY OTHER RESERVOIR) OF THE MIXED LAYER OF THE NORTH PACIFIC OCEAN, AND THE RELATIVE MAGNITUDES OF THE TRITIUM INPUT BY PRECIPITATION, AND INPUT BY MOLECULAR EXCHANGE AND OTHER MECHANISMS. AFTER THE STEEP RISE IN THE TRITIUM CONCENTRATION IN NORTH PACIFIC SURFACE WATER IN 1963 FROM AN AVERAGE OF ABOUT 8 TO 13 T.U. THE AVERAGE LEVEL REMAINED ESSENTIALLY CONSTANT, REACHING A PLAT MAXIMUM IN LATE 1964 OR 1965. SINCE THEN THE LEVEL HAS DECREASED MUCH MORE SLOWLY THAN HAS THE TRITIUM CONCENTRATION IN NORTHERN HEMISPHERE PRECIPITATION. THESE DECREASES, WHICH ARE AT MOST OF THE ORDER OF 25% AND A FACTOR OF 3, RESPECTIVELY, ENABLE ONE TO MAKE AN ESTIMATE OF TIME CONSTANTS AND VOLUMES INVOLVED. ESTIMATIONS OF THE TRITIUM INPUT RATE DERIVED FROM THE TRITIUM CONCENTRATIONS OF OCEANIC AND COASTAL RAINS, TOGETHER WITH THE OBSERVED TRITIUM CONCENTRATION IN OCEAN SURFACE WATER, CAN BE USED TO CALCULATE VALUES FOR BOTH THE RESIDENCE TIME AND SIZE OF THE MIXED LAYER. (AUTHS.)
H-3, RADIONUCLIDES, SURFACE WATERS, NORTH PACIFIC OCEAN, OCEANS, PACIFIC OCEAN, INPUT-OUTPUT ANALYSIS, ANALYSIS, RESIDENCE TIME

06230

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DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED BY MEANS OF HYDROGEN ISOTOPES.
IN- ISOTOPE TECHNIQUES IN THE HYDROLOGIC CYCLE. G. E. STOUT, ED. SYMPOSIUM HELD AT THE UNIVERSITY OF ILLINOIS, 10-12 NOVEMBER 1965. AMERICAN GEOPHYSICAL UNION, GEOPHYSICAL MONOGRAPH SERIES NO. 11; AND NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL PUBLICATION NO. 1488. PP 28-36, 1967, 5 FIGS., 1 TAB., 18 REFS.
MEASUREMENTS SHOW THAT MOVEMENT OF SOIL MOISTURE IS LAYERED. A SINGLE RAINFALL, ARTIFICIALLY SPIKED WITH ISOTOPE TRACER, WILL THEREFORE FORM A TAGGED LAYER OF WATER, WHICH, ALTHOUGH BLURRED BY DIFFUSION EFFECTS, MOVES DOWNWARD AS A DISTINGUISHABLE BOUNDARY BETWEEN THE OLDER RAINWATER BELOW AND THE YOUNGER RAINWATER ABOVE. AFTER A CERTAIN TIME AND A CORRESPONDING DISPLACEMENT OF THE TRACER PEAK, ONE CAN THEREFORE DRAW UP A BALANCE BETWEEN INCOMING RAIN (CORRECTED FOR RUNOFF) DURING THE PERIOD IN QUESTION AND THE WATER STILL REMAINING IN THE SOIL AND EVENTUALLY YIELDING GROUND WATER, THE DIFFERENCE BEING THE BELOW 1 MYR, SO THAT THE METHOD GIVES ACCURATE VALUES ONLY FOR PERIODS OF AT LEAST A FEW MONTHS. THE THEORETICAL BASIS AND THE LIMITATIONS OF THE METHOD ARE DISCUSSED. THE METHOD SHOULD PROVIDE DETAILED INFORMATION ON THE WATER BALANCE WITHOUT DISTURBING THE NATURAL CONDITIONS AND SHOULD BE APPLICABLE EVERYWHERE AT LOW COST. (AUTHS.)
MOVEMENT, SOIL MOISTURE, MOISTURE, TRACERS, H-3, RADIONUCLIDES, WATER, SOILS, EVAPOTRANSPIRATION, DEUTERIUM

06231

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THE ATMOSPHERIC TRANSPORT OF TRITIUM.
IN- ISOTOPE TECHNIQUES IN THE HYDROLOGIC CYCLE. G. E. STOUT, ED. SYMPOSIUM HELD AT THE UNIVERSITY OF ILLINOIS, 10-12 NOVEMBER 1965. AMERICAN GEOPHYSICAL UNION, GEOPHYSICAL MONOGRAPH SERIES NO. 11; AND NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL PUBLICATION NO. 1488. PP 56-57, 1967, 1 REF.
IT IS NOTED THAT ALTHOUGH TRITIUM APPEARS IN WATER AS HTO, ITS CIRCULATION IN NATURE DIFFERS FROM THAT OF WATER. AN ANALYSIS OF THE REASONS FOR THESE DIFFERENCES IS PRESENTED.
ATMOSPHERE (TERRESTRIAL), PRECIPITATION (METEOROLOGICAL), H-3, WATER, RADIONUCLIDES, TRANSPORT, EQUATIONS

06232

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HURRICANE TRITIUM I- PRELIMINARY RESULTS ON HILDA 1964 AND BETSY 1965.
IN- ISOTOPE TECHNIQUES IN THE HYDROLOGIC CYCLE. G. E. STOUT, ED. SYMPOSIUM HELD AT THE UNIVERSITY OF ILLINOIS, 10-12 NOVEMBER 1965. AMERICAN GEOPHYSICAL UNION, GEOPHYSICAL MONOGRAPH SERIES NO. 11; AND NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL PUBLICATION NO. 1488. PP 58-60, 1967, 2 FIGS., 1 TAB., 3 REFS.
THE TRITIUM CONCENTRATION IN WATER VAPOR OF UNDISTURBED TROPICAL AIR IS ROUGHLY 10 TIMES HIGHER THAN THAT OF SURFACE SEA WATER. WHEN THIS AIR IS ENTRAINED INTO A HURRICANE, THE EXTENT OF AIR-SEA

EXCHANGE OF WATER IS QUANTITATIVELY REFLECTED IN THE LOWERING OF THE TRITIUM CONCENTRATION OF THE AIR APPROACHING THE EYE. (AUTH.)
DESTRUCTIVE FACTORS, WATER VAPOR, SEA WATER, SALT WATER, H-3, STORMS, RADIONUCLIDES, HURRICANES, GASES, WATER

06233

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WATER TRACING IN THE HYDROLOGIC CYCLE.

IN- ISOTOPE TECHNIQUES IN THE HYDROLOGIC CYCLE. G. B. STOUT, ED. SYMPOSIUM HELD AT THE UNIVERSITY OF ILLINOIS, 10-12 NOVEMBER 1965. AMERICAN GEOPHYSICAL UNION, GEOPHYSICAL MONOGRAPH SERIES NO. 11; AND NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL PUBLICATION NO. 1488. PP 97-108, 1967, 11 PIGS., 2 TABS., 13 REFS.

THE USE OF TRITIUM, DEUTERIUM, O-18, AND C-14 TO REPRESENT CIRCULATION ON THE CONTINENTAL AND HEMISPHERIC SCALE GIVES NEW SIGNIFICANT TO THE TRACING OF WATER MOVEMENT THROUGHOUT THE HYDROLOGIC CYCLE. THE TRADITIONAL CONCEPT OF TRACERS AS LIMITED TOOLS TO OBTAIN DATA ABOUT MICRO-AREAS WITHIN EXTENSIVE AQUIFERS (ANALOGOUS TO MEASURING PERMEABILITY ON CORE SAMPLES TO OBTAIN THE PERMEABILITY OF AN AQUIFER) IS OUTDATED BY THE NEWER TECHNIQUES. THE TRACERS OF INTEREST FOR INVESTIGATION OF THE HYDROLOGIC CYCLE ARE INTRODUCED ON THE GRAND SCALE BY NATURAL PROCESSES AND FALLOUT, AND THE DATA OBTAINED BY OBSERVING THEIR DISTRIBUTIONS REPRESENT INTEGRATIONS OF TRANSPORT PROCESSES OVER LARGE AREAS. RADIOISOTOPES HAVE ALSO CONTRIBUTED TO THE INVESTIGATION OF THE LOCAL OR MICRO-ASPECTS OF THE HYDROLOGIC CYCLE. RADIOISOTOPE TRACERS HAVE BEEN SUBSTITUTED FOR CHEMICAL TRACERS IN GROUND WATER VELOCITY AND DIRECTION AND MEASUREMENTS, THE INVESTIGATION OF STRATIFIED FLOW, DIRECTIONAL INFORMATION FROM PUMPING TESTS, AND SIMILAR STUDIES. (AUTH.)
H-3, O-18, C-14, RADIONUCLIDES, TRACERS, TRANSPORT, WATER, ASIA, HYDROLOGICAL CYCLING, MOVEMENT, CIRCULATION, DISTRIBUTION, FALLOUT, GROUND WATER, EVAPOTRANSPIRATION, PRECIPITATION (METEOROLOGICAL), SEASONAL VARIATIONS, PERIODIC VARIATIONS, NORTH AMERICA, SOUTH AMERICA, EUROPE, MEDITERRANEAN, INDIAN OCEAN, PACIFIC OCEAN, OCEANS, DEUTERIUM

06234

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USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO.

IN- ISOTOPE TECHNIQUES IN THE HYDROLOGIC CYCLE. G. B. STOUT, ED. SYMPOSIUM HELD AT THE UNIVERSITY OF ILLINOIS, 10-12 NOVEMBER 1965. AMERICAN GEOPHYSICAL UNION, GEOPHYSICAL MONOGRAPH SERIES NO. 11; AND NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL PUBLICATION NO. 1488. PP 130-142, 1967, 11 PIGS., 3 TABS., 4 REFS.

CHEMICAL AND RADIOACTIVE TRACERS WERE USED IN STUDIES OF THE GEOLOGY AND THE HYDROLOGY OF THE BASALT TERRANE. A SALT TRACER, USED NEAR WASTE DISPOSAL FROM THE IDAHO CHEMICAL PROCESSING PLANT, INDICATED RATES OF FLOW RANGING FROM 15 TO 50 FT/DAY IN THE REGIONAL GROUND-WATER RESERVOIR, AND A DOSIUM FLUORESCENCE DYE INDICATED AN AVERAGE RATE OF FLOW OF ABOUT 20 FT/DAY. RECENT STUDIES USING TRITIUM INDICATED AVERAGE RATES OF FLOW OF ABOUT 54 FT/DAY BASED ON FIRST ARRIVAL AND FROM 10 TO 13 FT-DAY BASED ON THE ARRIVAL OR THE CENTER OF MASS OR MAXIMUM TRITIUM CONCENTRATION. STUDIES OF THE WATER PERCHED IN THE ALLUVIUM AND BASALT UNDERLYING THE TEST REACTOR AREA INDICATED A RATE OF FLOW OF ABOUT 2-10 FT/DAY. LONG-RANGE TRITIUM STUDIES IN THE REGIONAL GROUND-WATER RESERVOIR IN THE CENTRAL FACILITIES AREA INDICATED RATES OF FLOW OF 6-8 FT/DAY UNDER NORMAL HYDRAULIC GRADIENTS OF 5 FT/MILE AT DISTANCES OF 4-5 MILES FROM POINTS OF INJECTION. (AUTH.)
TRACERS, H-3, RADIONUCLIDES, DYES, GEOLOGY, HYDROLOGY, GROUND WATER, WATER, FLOW RATES, WASTE DISPOSAL, RADIOACTIVE WASTE DISPOSAL, IDAHO, NATIONAL REACTOR TESTING STATION, CONCENTRATION, TRANSPORT, BASALT, IGNEOUS ROCK, ROCK

06235

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LARGE-SCALE UTILIZATION OF TRITIUM IN HYDROLOGIC STUDIES.

IN- ISOTOPE TECHNIQUES IN THE HYDROLOGIC CYCLE. G. B. STOUT, ED. SYMPOSIUM HELD AT THE UNIVERSITY OF ILLINOIS, 10-12 NOVEMBER 1965. AMERICAN GEOPHYSICAL UNION, GEOPHYSICAL MONOGRAPH SERIES NO. 11; AND NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL PUBLICATION NO. 1488. PP 153-156, 1967, 8 REFS.

TRITIUM IS AN EXCELLENT TRACER FOR CIRCULATION OF WATER IN NATURE IN MANY OF ITS PHASES AND WILL BE INDISPENSABLE AS A RESEARCH TOOL DURING THE HYDROLOGIC DECADE. THE CURRENTLY AVAILABLE DATA MAKE IT POSSIBLE TO STUDY SOME LARGE-SCALE PHENOMENA SUCH AS RATE OF EXCHANGE OF WATER ACROSS THE SEA SURFACE AND RATE OF THE EXCHANGE BETWEEN SEA SURFACE WATER AND DEEPER SEA WATER. THE HYDROLOGIC CHARACTERISTICS OF RIVER BASINS CAN ALSO BE STUDIED AS WELL AS SIMILAR CHARACTERISTICS OF GROUND-WATER RESERVOIRS. IN THESE CASES THE CHARACTERISTICS, SUITABLY DEFINED, ARE REVEALED BY THE DISTORTION OF TRITIUM PULSES IN PRECIPITATION, WHICH OCCUR WHEN WATER IS PASSING THROUGH THE RESERVOIRS. FOR FULL LARGE-SCALE UTILIZATION OF TRITIUM AS A TRACER IN HYDROLOGIC STUDIES, IT WILL BE NECESSARY TO COLLECT DATA FOR MANY YEARS. (AUTH.)
H-3, RADIONUCLIDES, TRACERS, WATER, CIRCULATION, MIXING, GROUND WATER, HYDROLOGICAL CYCLING, SURFACE WATERS

06236

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FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER.

IN- ISOTOPE TECHNIQUES IN THE HYDROLOGIC CYCLE. G. B. STOUT, ED. SYMPOSIUM HELD AT THE UNIVERSITY OF ILLINOIS, 10-12 NOVEMBER 1965. AMERICAN GEOPHYSICAL UNION, GEOPHYSICAL MONOGRAPH SERIES NO. 11; AND NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL PUBLICATION NO. 1488. PP 159-168, 1967, 1 FIG., 8 TABS., 5 REFS.

LABORATORY INVESTIGATIONS ARE BEING CONDUCTED TO DETERMINE THE POTENTIAL CAPABILITIES OF HYDROGEN ISOTOPES IN AGE-DATING TECHNIQUES AND AS TRACERS FOR GROUND AND SURFACE WATERS. PRELIMINARY RESULTS SHOW THAT TRITIUM AND DEUTERIUM INTERACT WITH CLAY MINERALS AS WATER DIFFUSES THROUGH DAVIDSON CLAY. THE DATA SUGGEST THAT TWO STAGES CHARACTERIZE THIS INTERACTION WITH CLAY MINERALS- A RAPID EXCHANGE WITH MORE LABILE HYDROXYL GROUPS, FOLLOWED BY EXCHANGE WITH OTHER STRUCTURAL HYDROXYLS. THE INITIAL AND RAPID EXCHANGE WAS CHARACTERISTIC, BUT TO VARYING DEGREES, OF ALL CLAY MINERALS USED IN THIS INVESTIGATION. EXCEPT FOR TRITIUM IN DAVIDSON CLAY, THE DATA WERE NOT SUFFICIENT TO SHOW THAT ADDITIONAL EXCHANGE OCCURS BEYOND THE FIRST STAGE. THE DATA SUGGEST THAT ISOTOPIC EXCHANGE AND FRACTIONATION OF HYDROGEN ISOTOPES IN THE CLAY-WATER SYSTEM MAY BE SIGNIFICANT FOR SOME AGE-DATING AND WATER-TRACING INVESTIGATIONS WHERE WATER FLOW IS SLOW THROUGH SOME KINDS OF CLAYS. FOR MANY INVESTIGATIONS THIS ISOTOPE EFFECT IS NOT IMPORTANT, BECAUSE IT IS SMALL COMPARED WITH ACCURACIES REQUIRED OF THE DATA. AS THE TRACER ART PROGRESSES, IT WILL BECOME POSSIBLE TO APPLY ISOTOPE EFFECT CORRECTIONS TO THE DATA. (AUTH.)
H-3, RADIONUCLIDES, FRACTIONATION, SOIL MOISTURE, MOISTURE, DEUTERIUM, WASTES, RADIOACTIVE AGE DETERMINATION, TRACERS, GROUND WATER, SURFACE WATERS, CLAYS, SEDIMENTS, SOILS, DAVIDSON CLAY, KAOLINITE, ISOTOPE EXCHANGE, MONTMORILLONITE

06237

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CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE AND SOURCES OF TRITIATED METHANE.

IN- RADIOACTIVE FALLOUT FROM NUCLEAR WEAPONS TESTS. A. W. KLEMENT, JR., ED. PROCEEDINGS OF THE 2ND CONFERENCE, GERMANTOWN, MD., NOV. 3-6, 1964. OAK RIDGE, TENN., U.S. ATOMIC ENERGY COMMISSION, DIVISION OF TECHNICAL INFORMATION EXTENSION, CONF-705. PP 144-149, 1965, 1 FIG., 13 REFS.

THE T/H RATIOS IN ATMOSPHERIC HYDROGEN AND METHANE ARE DISCUSSED IN RELATION TO SOME OF THE AVAILABLE INFORMATION ON THE AMOUNTS OF TRITIUM RELEASED BY THE NUCLEAR INDUSTRY. THE INCREASE

IN THE T/H RATIO IN ATMOSPHERIC HYDROGEN PRIOR TO 1952 CAN BE ATTRIBUTED TO THIS SOURCE. FROM THE RATE OF TRITIUM RELEASE, AN ESTIMATE OF THE PRODUCTION OF TRITIATED METHANE CAN BE MADE. SUCH AN ESTIMATE GIVES REASONABLE AGREEMENT WITH THE OBSERVED T/H VALUES. (AUTHS.) H-3, RADIONUCLIDES, HYDROGEN, GASES, METHANE, NUCLEAR TESTING, T/H RATIO, ATMOSPHERE (TERRESTRIAL), TRITIATED METHANE

06238

ERIK BJORKSSON AND BERT BOLIN
UNIVERSITY OF STOCKHOLM, INTERNATIONAL METEOROLOGICAL INSTITUTE, STOCKHOLM, SWEDEN
OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER.

IN- RADIOACTIVE PALLIOT FROM NUCLEAR WEAPONS TESTS. A. W. KLEMENT, JR., ED. PROCEEDINGS OF THE 2ND CONFERENCE, GERMANTOWN, MD., NOV. 3-6, 1964. OAK RIDGE, TENN., U.S. ATOMIC ENERGY COMMISSION, DIVISION OF TECHNICAL INFORMATION EXTENSION, CONF-765. PP 675-686, 1965, 4 FIG., 9 REFS.

THE OCCURRENCE OF THE NUCLIDES O-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS IS DISCUSSED ON THE BASIS OF THE GENERAL CIRCULATION OF WATER DERIVED FROM STANDARD METEOROLOGICAL OBSERVATIONS OF HUMIDITY, PRECIPITATION, AND EVAPORATION. IF THE ESTABLISHMENT OF A CHARACTERISTIC VERTICAL DISTRIBUTION OF MOISTURE, DEUTERIUM, AND O-18 IS RAPID (A FEW DAYS) IN COMPARISON WITH THE LARGE-SCALE HORIZONTAL TRANSFER RATES OF MOISTURE OVER THE OCEANS, ONE CAN RELATE THE VERTICAL DISTRIBUTION OF DEUTERIUM AND O-18 IN AIR MOISTURE AND THE CONTENT OF THESE NUCLIDES IN PRECIPITATION TO THE HUMIDITY DISTRIBUTION, THE ISOTOPIC COMPOSITION OF SEA WATER, AND THE CHARACTERISTIC FRACTIONATION FACTOR FOR CONDENSATION-EVAPORATION. OBSERVED ISOTOPIC COMPOSITION OF RAINWATER AND RECENT MEASUREMENTS OF TRITIUM IN ATMOSPHERIC MOISTURE OVER EQUATORIAL REGIONS ARE DISCUSSED IN VIEW OF THEORETICAL RESULTS. FURTHERMORE, THE MERIDIONAL TRANSPORTS OF MOISTURE, DEUTERIUM, AND O-18 WHICH HAVE THE OCEAN SURFACE AS THE SOURCE ARE COMPARED WITH THE TRANSFER OF TRITIUM WHICH HAS A STRATOSPHERIC SOURCE. FINALLY, AN ESTIMATE OF THE TOTAL INVENTORY OF TRITIUM IS GIVEN AND RELATED TO THE GLOBAL PALLIOT OF TRITIUM. (AUTHS.)

PRECIPITATION (METEOROLOGICAL), VERTICAL DISTRIBUTION, METEOROLOGY, SEA WATER, O-18, H-3, RADIONUCLIDES CIRCULATION, WATER, PALLIOT, HUMIDITY, EVAPORATION, DISTRIBUTION, RAINWATER, SALT WATER, WATER VAPOR, GASES, DEUTERIUM

06239

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RESIDUAL TRITIUM AT SEDAN CRATER.

IN- SYMPOSIUM ON RADIOECOLOGY. D.J. NELSON AND F.C. EVANS, EDS. PROCEEDINGS OF THE 2ND NATIONAL. HELD AT ANN ARBOR, MICH., 15-17 MAY 1967. U.S. ATOMIC ENERGY COMMISSION, CONF-670503. PP 696-708, 1969, 13 FIGS., 15 REFS. (ALSO ISSUED AS U. S. AEC REPORT UCRL-48292.)
AVAILABILITY- CPSTI.

RESIDUAL TRITIUM (HTO) IS FOUND IN MICROCURIES CONCENTRATIONS IN THE INTERSTITIAL WATER OF THE SEDAN THROWOUT SOIL, AND IN THE LOOSE TISSUE WATER OF PLANTS WHICH HAVE REINVADED THE NEW SUBSTRATUM DEPOSITED ON THE LANDSCAPE ADJACENT TO THE CRATER. TRITIUM IS PRESENT NOT ONLY IN LOOSE TISSUE WATER OF VASCULAR PLANTS GROWING ON THE SEDAN THROWOUT, BUT A COMPARABLE LEVEL IS ALSO FOUND IN THE TISSUE-BOUND HYDROGEN OF THESE PLANTS. HERBIVORES, MAINLY HETEROMYID RODENTS, WHICH HAVE REINVADED THE SEDAN POST-SHOT ENVIRONMENT AND RESIDE THERE, ALSO HAVE TRITIUM CONCENTRATIONS IN THEIR BODY WATER BETWEEN 1 AND 3 MICROCURIES/ML. THESE BODY-WATER TRITIUM CONCENTRATIONS ARE CLOSELY RELATED TO THE LEVELS OF TRITIUM IN THE PLANT TISSUE-BOUND HYDROGEN. SOIL-WATER TRITIUM CONCENTRATIONS IN THE SOILS AIR AT THE RODENT BURROW DEPTH ARE SEVERAL ORDERS OF MAGNITUDE LOWER THAN THE OBSERVED BODY-WATER LEVEL. THE INSPIRATION ROUTE OF ENTRY OF TRITIUM INTO THE ANIMAL IS THEREFORE ASSUMED TO BE A SECONDARY ONE, WITH THE PRIMARY SOURCES BEING THE PLANT ORGANIC MATTER SYNTHESIZED IN THE SEDAN POST-SHOT ENVIRONMENT WHICH IS USED AS THE ANIMALS FOOD BASE. THE INTERNAL DOSE TO THE RESIDENT MAMMAL AT SEDAN CRATER FROM RESIDUAL TRITIUM IS ESTIMATED TO BE BETWEEN 18 AND 268 RADS, OR ABOUT 10 TIMES THAT FROM EXTERNAL RADIATION SOURCES RESULTING FROM THE DETONATION. PRECIPITATION (METEOROLOGICAL), TRANSPIRATION, RADIATION EXPOSURE, BODY WATER, PLANTS, BODY, BURDEN, MOISTURE, SOIL MOISTURE, SALSOLA, BODY FLUIDS, MAMMALS, ANIMALS, RODENTS, SOILS, THROWOUT, WATER, H-3, NUCLEAR EXPLOSIONS, SEDAN, RADIONUCLIDES, RATS, RODENTS, PLOWSHARE PROGRAM, NEVADA TEST SITE, COMPOSITAB, FLOWERING PLANTS

06240

C.R. RICHMOND, W.H. LANGHAM, AND T.T. TRUJILLO
UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.
COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS.

JOURNAL OF CELLULAR AND COMPARATIVE PHYSIOLOGY, VOL. 59, PP 45-53, 1962, 3 FIGS., 2 TABS., 31 REFS.

THE DAILY TURNOVER OF EXCHANGEABLE BODY WATER WAS CALCULATED FOR 7 SPECIES OF ADULT MAMMALS. BODY WATER CONTENT WAS ABOUT 60% OF BODY WEIGHT FOR ALL SPECIES. BIOLOGICAL HALF-TIMES FOR TURNOVER OF BODY WATER VARIED FROM 1.1 DAYS FOR MICE TO 9.5 DAYS FOR MAN. THE LONGEST BIOLOGICAL HALF-TIME OBSERVED WAS ABOUT 12 DAYS FOR DESERT KANGAROO RATS. VALUES FOR THE VOLUME AND TURNOVER OF BODY WATER FOR THE VARIOUS SPECIES ARE COMPARED WITH VALUES REPORTED IN THE LITERATURE. AN INTERSPECIES CORRELATION OF THE POWER FUNCTION TYPE BETWEEN DAILY WATER TURNOVER AND SPECIES WEIGHT WAS ESTABLISHED. BODY WATER TURNOVER WAS FOUND TO VARY AS THE 0.80 POWER OF BODY WEIGHT FOR ALL SPECIES EXCEPT THE DESERT RAT. A PARABOLIC INTERSPECIES CORRELATION WAS ALSO ESTABLISHED BETWEEN TOTAL BODY WATER AND TOTAL BODY SOLIDS FOR THE 7 SPECIES. THE RELATIVE PARTITION OF WATER AND SOLIDS IN ADULT MAMMALS IS CONSTANT WITH A VALUE OF 1 WHEN EXPRESSED INTERSPECIFICALLY.

BIOLOGICAL HALF-LIFE, HALF-LIFE, MICE, RATS, RABBITS, RODENTS, DOGS, MAN, HORSES, DOMESTIC ANIMALS, LIVESTOCK, RETENTION, BODY FLUIDS, BODY WATER, RAT, H-3, RADIONUCLIDES, METABOLISM, MAMMALS, ANIMALS, KANGAROO TRITIATED WATER

06241

FRIEDRICH BEGEMANN AND IRVING FRIEDMAN
F. BEGEMANN, MAX-PLANCK INSTITUTE OF CHEMISTRY, MAINZ, GERMANY; I. FRIEDMAN, U.S. GEOLOGICAL SURVEY, DENVER, COLO.

ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 73, NO. 4, PP 1139-1147, 1968, 6 FIGS., 4 TABS., 20 REFS.

32 SAMPLES OF ATMOSPHERIC MOLECULAR HYDROGEN WERE ANALYZED FOR TRITIUM AND DEUTERIUM CONTENT. THE PROCEDURE FOR EXTRACTING THE HYDROGEN FROM THE CRUDE NEON FRACTION FROM AIR LIQUEFACTION PLANTS IS DESCRIBED IN SOME DETAIL. DATA INDICATING GOOD REPRODUCIBILITY ARE GIVEN. WHERE POSSIBLE THE RESULTS ARE COMPARED WITH RESULTS OBTAINED ON THE SAME SAMPLES IN OTHER LABORATORIES. REASONS FOR DISCREPANCIES, WHICH IN SOME CASES AMOUNT TO 50%, ARE DISCUSSED. DURING THE 1958-1961 TEST MORATORIUM ON THERMONUCLEAR WEAPONS THE TRITIUM LEVEL CONTINUED TO RISE; YET, NO IMMEDIATE SIGNIFICANT INCREASE DUE TO THE LARGE USSR TEST SERIES AT THE END OF 1961 HAS BEEN OBSERVED.

H-3, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), HYDROGEN, GASES, DEUTERIUM, GERMANY

06243

U. S. ATOMIC ENERGY COMMISSION, NEVADA OPERATIONS OFFICE
ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO.
LAS VEGAS, NEV., U.S. AEC REPORT PNE-G-48. 83 P., 1969, 15 FIGS., 3 TABS., REFS.

ANSWERS ARE GIVEN TO 24 QUESTIONS ASKED AND INCLUDED ARE DETAILS ABOUT THE RESULTS OF THE DECEMBER 10, 1967, GASBUGGY SUCH AS THE PRODUCTION AND TRANSPORT OF RADIOISOTOPES IN THAT EXPERIMENT, I. E., THE CONTAMINATION OF THE ATMOSPHERE, SOIL, AND WATER IN THE EXPLOSION AREA. SOME PRESAMPLED GEOLOGIC AND HYDROLOGIC DATA OBTAINED FOR THE RULISON SHOT ARE INCLUDED. GASBUGGY, UNDERGROUND NUCLEAR EXPLOSIONS, RULISON, EXPLOSIONS, NUCLEAR EXPLOSIONS, UNDERGROUND NUCLEAR TESTING, NUCLEAR TESTING, TRANSPORT, RADIONUCLIDES, CONTAMINATION, ATMOSPHERE (TERRESTRIAL), SOILS, WATER, GEOLOGY, HYDROLOGY, H-3, NATURAL GAS, KR-85, C-14, COLORADO, PLOWSHARE PROGRAM

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TECHNICAL INSTITUTE OF NUCLEAR PHYSICS, DARMSTADT, GERMANY
STRATOSPHERIC TRITIUM. [STRATOSPHERIC TRITIUM.]

GEOCHIMICA ET COSMOCHEMICA ACTA, VOL. 27, PP 741-751, 1963, 2 FIGS., 2 TABS., 20 REFS.

TRITIUM MEASUREMENTS WERE TAKEN OF DARMSTADT RAINWATER AND OF MONTHLY AVERAGE RAINWATER SAMPLES FROM A NUMBER OF EUROPEAN AND ASIATIC STATIONS. THE NORTH-SOUTH AND EAST-WEST DEPENDENCES OF THE TRITIUM CONCENTRATION ARE DISCUSSED ON THE BASIS OF EXISTING MODELS FOR THE ATMOSPHERE. THE RATE OF INFLUX OF NATURAL TRITIUM INTO THE TROPOSPHERE IS CALCULATED FROM THE EAST-WEST DEPENDENCE TO BE 0.4 ATOMS C/CM(2) SEC WITH AN ERROR OF ABOUT 40%. THE DEPOSITION OF STRATOSPHERIC TRITIUM DURING THE YEAR OF 1960 IS IN AGREEMENT WITH EXPECTATION. THE TRITIUM CONCENTRATIONS INCREASED AFTER THE RUSSIAN WEAPON TESTS IN THE FALL OF 1961. (AUTH.)

H-3, PRECIPITATION (METEOROLOGICAL), RADIONUCLIDES, RAINOUT, GERMANY, TROPOSPHERE, DEPOSITION, MODELS, STRATOSPHERE, WASHOUT

06245

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CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM.

IN- RADIOISOTOPES IN SCIENTIFIC RESEARCH. VOL. 2, R. C. EXTERMANN, ED. N.Y., PERGAMON PRESS.

PP 634-656, 1958, 7 FIGS., 12 TABS., 14 REFS.

THERMONUCLEAR TRITIUM PRODUCED DURING THE CASTLE OPERATION WAS USED TO STUDY THE CIRCULATORY RATES FOR WATER IN THE NORTHERN HEMISPHERE. NORTHERN HEMISPHERE RAINS, 6 TO 18 MONTHS FOLLOWING CASTLE OPERATION, HAD ABOUT 1/2 THE TRITIUM CONTENT OF THE SURFACE WATER AND THIS DIFFERENCE REVEALED THAT ABOUT 1/3 OF THE RAIN IN THE UPPER MISSISSIPPI VALLEY IS OCEAN WATER AND ABOUT 2/3 RE-EVAPORATED SURFACE WATER. THE TOTAL INWARD TRANSPORT OF OCEAN WATER FOR THE UPPER MISSISSIPPI VALLEY IS ABOUT 1 M/YR. ON THE AVERAGE TRITIUM HAS A RESIDENCE HALF-LIFE OF ABOUT 6 YRS ON THE CONTINENTAL LAND MASS OF NORTH AMERICA. THIS PROBABLY IS APPLICABLE TO MOST OTHER CONTINENTAL LAND MASSES. WATER FROM THE OCEANS STAYS IN THE NORTHERN MISSISSIPPI VALLEY APPROX 15 YRS. STUDIES OF THE CIRCULATORY PATTERN OF HOT SPRINGS HAVE SHOWN THAT THE WATER IS RAINWATER WHICH HAS BEEN STORED FOR RELATIVELY SHORT PERIODS. STUDY OF GROUND WATER HAS SHOWN THAT IN LARGE AREAS THE WATER ISSUING FROM WELLS DUG FOR NORMAL USE IS OLDER THAN 50 YRS. THE TECHNIQUE OF STUDYING TRITIUM CONTENT OF WELL WATER IS QUITE LIKELY TO BE VALUABLE IN STUDYING GROUND WATER SUPPLIES AND PREDICTING THEIR SUSCEPTIBILITY TO DROUGHT AS WELL AS DEPLETION BY PUMPING AND THE POSSIBILITY OF REPLENISHMENT FROM RAIN OR SNOW.

WATER BALANCE, GROUND WATER, WATER, RESIDENCE TIME, OCEANS, MIXING, RADIATION, H-3, RADIONUCLIDES, NORTH AMERICA, RAINOUT, TRANSPORT, PRECIPITATION (METEOROLOGICAL), SNOW, DEPOSITION, HYDROLOGY, COSMIC RADIATION, IONIZING RADIATION, CIRCULATION, WASHOUT, RAINWATER, SURFACE WATERS

06246

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THE PRODUCTION RATE OF NATURAL TRITIUM.

TELLUS, VOL. 13, NO. 1, PP 85-105, 1961, 10 FIGS., 6 TABS., 50 REFS.

A DETAILED EVALUATION WAS MADE OF THE PRODUCTION RATE OF NATURAL TRITIUM IN THE PRE-THERMONUCLEAR EPOCH. DEUTERIUM AND TRITIUM ANALYSES ON THE SAME PRECIPITATION SAMPLES WERE USED TO ESTABLISH THE UNCONTAMINATED TRITIUM LEVELS IN PRECIPITATION SAMPLED BEFORE THE CASTLE TESTS, AND THE TRITIUM BALANCE WAS CALCULATED FOR THE NORTH AMERICAN TROPOSPHERE. THE GLOBAL MEAN PRODUCTION RATE CALCULATED FROM THE GEOCHEMICAL INVENTORY, WAS FOUND TO BE APPROX 0.5 ATOMS T/CM(2) SEC. THIS VALUE WAS 3 TO 4 TIMES SMALLER THAN VALUES FOUND PREVIOUSLY BECAUSE OF THE FOLLOWING DEVELOPMENTS- (1) INCREASES IN TRITIUM CONTENT OBSERVED DURING EARLY THERMONUCLEAR TESTS BEFORE CASTLE WERE DUE TO ADDITION OF SYNTHETIC TRITIUM RATHER THAN TO RANDOM FLUCTUATIONS. (2) THE MEAN STRATOSPHERIC RESIDENCE TIME FOR TRITIUM WAS FOUND TO BE ABOUT 1.6 YRS. (3) STRATOSPHERIC TRITIUM WAS PREFERENTIALLY INJECTED INTO THE TROPOSPHERE AT HIGH LATITUDES. THE PREDICTED PRODUCTION RATE WAS CALCULATED FROM COSMIC RAY AND NUCLEAR CROSS-SECTIONAL DATA USING THE STAR PRODUCTION RATES IN THE ATMOSPHERE.

THE PREDICTED MEAN GLOBAL TRITIUM PRODUCTION RATE DURING AN AVERAGE SOLAR CYCLE WAS FOUND TO BE 0.25 ATOMS T/CM(2) SEC. THE VARIATION IN THE PRODUCTION RATE OVER AN AVERAGE SOLAR CYCLE WAS FOUND TO BE 4.5% WITHIN THE UNCERTAINTIES OF THE DATA AND CALCULATIONS, THE PRODUCTION RATES CALCULATED FROM THE GEOCHEMICAL INVENTORY AND FROM THE COSMIC RAY DATA WERE IN AGREEMENT, AND THERE WAS THUS NO OBSERVATIONAL EVIDENCE FOR ACCRETION OF TRITIUM FROM AN EXTRATERRESTRIAL SOURCE.

PRECIPITATION (METEOROLOGICAL), H-3, RADIONUCLIDES, NORTH AMERICA, TROPOSPHERE, STRATOSPHERE, RESIDENCE TIME, COSMIC RADIATION, RADIATION, IONIZING RADIATION, ATMOSPHERIC TESTING, NUCLEAR TESTING, TRANSPORT, WATER VAPOR, GASES, DEUTERIUM, PRODUCTION RATE

06247

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AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE.

TELLUS, VOL. 17, NO. 1, PP 118-130, 1965, 10 FIGS., 3 TABS., 22 REFS.

U.S. ABC CONTRACT NO. AT (30-1)-2458.

THERMONUCLEAR TRITIUM PRODUCED DURING BOMB TESTS SINCE 1951 WAS BY AND LARGE INJECTED INTO THE STRATOSPHERE. THE EXACT AMOUNTS ARE NOT KNOWN BUT VARIOUS ESTIMATES AGREE REASONABLY WELL.

THE PATTERN THIS IS DISCUSSED IN SOME DETAIL AND IT APPEARS THAT OCEAN SURFACES ARE VERY EFFECTIVE FOR WITHDRAWING ATMOSPHERIC TRITIUM. AVAILABLE DATA ON RAINFALL CONCENTRATIONS ARE ALSO REVIEWED AS WELL AS VARIOUS MODELS PUT FORTH TO EXPLAIN THE TRANSPORT OF TRITIUM IN NATURE.

ATMOSPHERE (TERRESTRIAL), ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING, PRECIPITATION (METEOROLOGICAL), H-3, RADIONUCLIDES, STRATOSPHERE, OCEANS, SURFACE WATERS, RAINWATER, TRANSPORT, DEPOSITION, MODELS, CONCENTRATION, RAINFALL

06248

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COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI.

BIOPHYSICS JOURNAL, VOL. 3, PP 183-187, 1963, 1 FIG., 2 TABS., 5 REFS.

THE KILLING EFFICIENCIES DUE TO THE DECAY OF INCORPORATED TRITIATED THYMIDINE, URIDINE, AND HISTIDINE IN E. COLI HAVE BEEN DETERMINED. DECAYS FROM TRITIATED THYMIDINE ARE 2.0 TIMES AS EFFECTIVE IN PRODUCING LETHALITY AS THOSE FROM TRITIATED URIDINE AND 2.5 TIMES AS EFFECTIVE AS THOSE FROM TRITIATED HISTIDINE. THEREFORE, IT SEEMS THAT THE GREATER PART OF DAMAGE FROM TRITIATED THYMIDINE DECAYS IS DUE TO CHEMICAL CHANGES ASSOCIATED WITH NUCLEAR TRANSFORMATION. (AUTH.)

RADIATION EFFECTS, RADIOACTIVE DECAY, H-3, RADIONUCLIDES, MORTALITY, TRITIATED COMPOUNDS, BACTERIA, MICROORGANISMS, PLANTS, TRITIATED THYMIDINE, TRITIATED URIDINE, TRITIATED HISTIDINE, ESCHERICHIA

06249

MARK SALOMON

RUTGERS UNIVERSITY, SCHOOL OF CHEMISTRY, NEW BRUNSWICK, N.J.

ISOTOPE EFFECTS IN MIXTURES OF LIQUID H₂O AND T₂O.

CANADIAN JOURNAL OF CHEMISTRY, VOL. 44, PP 689-694, 1966, 1 TAB., 27 REFS.

CALCULATIONS ARE PRESENTED FOR THE EQUILIBRIUM TRITIUM ISOTOPE EFFECT INVOLVING WATER, HYDRONIUM ION, AND HYDROXIDE ION. THE RESULTS ARE USED TO PREDICT THE KINETIC ISOTOPE EFFECT IN THE TRANSFER OF PROTONS TO A MERCURY CATHODE. (AUTH.)

EQUILIBRIUM CONSTANTS, H-3, RADIONUCLIDES, WATER, DEUTERIUM

06250

GRANT N. SMITH, R. J. EMERSON, L. A. TEMPLE AND T. W. GALBRAITH

THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS.

ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, VOL. 48, PP 22-30, 1953, 2 FIGS., 3 TABS., 14 REFS.
BACTERIA ISOLATED FROM THE INTESTINAL CONTENTS FROM RATS HAVE BEEN FOUND TO FIX SIGNIFICANT QUANTITIES OF MOLECULAR TRITIUM. THE POSSIBILITY THAT BACTERIA WERE THE PRINCIPAL AGENT IN THE FIXATION OF TRITIUM WITHIN THE ANIMAL BODY WAS INVESTIGATED. OXIDATION OF TRITIUM BY TISSUE HOMOGENATES REVEALED THAT OXIDATION OCCURRED WITH HOMOGENATES PREPARED FROM THE SPLEEN AND INTESTINES. FIXATION BY THE INTESTINAL HOMOGENATES WAS UNDOUBTEDLY DUE TO BACTERIAL ACTION. A DECREASE IN THE BACTERIAL FLORA OF INTACT ANIMALS BY EITHER EVISCERATION OR TREATMENT WITH ANTIBIOTICS REDUCED THE TOTAL QUANTITY OF TRITIUM OXIDIZED. THESE RESULTS INDICATE THAT THE BACTERIAL CONTENT MAY BE THE PRINCIPAL AGENT IN THE OXIDATION OF TRITIUM WITHIN THE ANIMAL BODY. (AUTHS.)
OXIDATION, H-3, RADIONUCLIDES, MAMMALS, ANIMALS, BACTERIA, PLANTS, MICROORGANISMS, RATS, RODENTS, PHYSIOLOGY

06251

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AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS.
PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-2229. 38 P., 1968, 9 FIGS., 1 TAB., 12 REFS.

U.S. AEC CONTRACT NO. W-7405-ENG-26.

AGE-DEPENDENT MODELS WHICH ARE USED IN THE INREM COMPUTER CODE FOR CALCULATING THE RADIATION DOSE RESULTING FROM INHALATION OR INGESTION OF RADIONUCLIDES ARE PRESENTED. USE OF AGE-DEPENDENT MODELS IN FEASIBILITY STUDIES PERMITS IDENTIFICATION OF THE CRITICAL SEGMENT OF THE POPULATION AND PROVIDES THE GUIDANCE NECESSARY FOR PLANNING OF REMEDIAL ACTION. RESULTS OF EXAMPLE DOSE CALCULATIONS ARE PRESENTED FOR TRITIUM AND I-131. THE RADIONUCLIDE INPUT USED FOR THE TRITIUM EXAMPLE IS BASED ON ESTIMATED CONCENTRATIONS RELEASED TO AIR AFTER COMBUSTION OF NATURAL GAS STORED IN THE PROJECT KETCH RESERVOIR. THE I-131 EXAMPLE ILLUSTRATES THE INFLUENCE OF THE AGE-DEPENDENT PARAMETERS IN THE DOSE MODEL UPON THE RESULTING DOSE ESTIMATES. A COMPUTER CODE CALLED EXREM IS BEING TESTED FOR EXTERNAL DOSE CALCULATIONS. (AUTHS.)
MATHEMATICAL MODELS, DOSE ESTIMATION, BIOLOGICAL HALF-LIFE, MODELS, INHALATION, INGESTION, H-3, I-131, RADIONUCLIDES, AGE, WEIGHT, BODY WATER, BODY FLUIDS, HALF-LIFE, PLOWSHARE PROGRAM, KETCH, COMPUTER MODELS, NATURAL GAS, MILK

06252

BRUNO J. GILETTI, FERNANDO BAZAN AND J. LAURENCE KULP
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THE GEOCHEMISTRY OF TRITIUM.
TRANSACTIONS OF THE AMERICAN GEOPHYSICAL UNION, VOL. 39, NO. 5, PP 807-818, 1958, 4 FIGS., 9 TABS.
24 REFS.

U.S. AIR FORCE, CAMBRIDGE RESEARCH CENTER, CONTRACT NO. AF19(604)-851.

TRITIUM CONCENTRATION HAS BEEN DETERMINED IN PRECIPITATION, OCEAN WATER, AND GROUND WATER. ALTHOUGH THE STEADY-STATE TRITIUM CYCLE HAS BEEN DISTURBED BY THERMONUCLEAR TESTING, ENOUGH ANALYSES OF PRE-TEST WATER HAVE BEEN MADE TO CONCLUDE THAT- (1) THE NORTH ATLANTIC SURFACE WATER HAD A NATURAL MEAN 1.0×10^{11} WHICH DOUBLED IN 1954 BECAUSE OF THE CASTLE TESTS, (2) THIS WATER MIXES DOWN TO THE SEASONAL THERMOCLINE IN ONE YEAR, (3) THE NORTH ATLANTIC CENTRAL WATER APPEARS TO BE 25 YRS OLD OFF THE COAST OF PORTUGAL, (4) MEASURABLE TRITIUM WAS FOUND IN 3 BOTTOM SAMPLES IN THE NORTH ATLANTIC SUGGESTING A YOUNG AGE FOR SOME OF THAT WATER, (5) THE HOT WATERS OF THE TECOLOTE TUNNEL, CALIFORNIA, WERE FROM RECENT (9 MONTHS) RAINS, (6) DIRECT RUNOFF OF PRECIPITATION FROM THE GROUND SURFACE TO STREAMS WAS AT LEAST 3% OF THE TOTAL PRECIPITATION IN THE HUDSON RIVER BASIN IN 1954, (7) THE NATURAL RATE OF PRODUCTION OF TRITIUM IS CALCULATED FROM A BUDGET ON THE NORTH ATLANTIC TO BE APPROX $0.75 \text{ H-3 ATOMS/SEC CM}^2$ OF EARTH'S SURFACE. (AUTHS.)
PRECIPITATION (METEOROLOGICAL), NORTH ATLANTIC OCEAN, H-3, OCEANS, RADIONUCLIDES, GEOCHEMISTRY, GROUND WATER, WATER, SURFACE WATERS, ATLANTIC OCEAN, METEOROLOGY, RAINWATER, OCEANOGRAPHY, MIXING, RUNOFF, CIRCULATION, COSMIC RADIATION, IONIZING RADIATION, RADIATION, THERMOCLINE, PRODUCTION RATE

06253

SHELDON KAUFMAN AND W. P. LIBBY
UNIVERSITY OF CHICAGO, DEPT. OF CHEMISTRY, AND INSTITUTE FOR NUCLEAR STUDIES, CHICAGO, ILL.
THE NATURAL DISTRIBUTION OF TRITIUM.
PHYSICAL REVIEW, VOL. 93, NO. 6, PP 1337-1344, 1954, 1 FIG., 4 TABS., 20 REFS.
THE ABUNDANCE OF COSMIC-RAY-PRODUCED TRITIUM WAS MEASURED IN A VARIETY OF NATURAL WATERS IN NORTH AMERICA. AN AVERAGE COSMIC RAY PRODUCTION RATE OF ABOUT $0.12 \text{ TRITIUM ATOMS PER CM}^2 \text{ PER SEC}$ WAS FOUND IF THE TOTAL RATE OF TRANSFER OF TRITIUM INTO THE OCEANS BY OCEANIC RAIN AND SNOW AND BY RIVERS CARRYING CONTINENTAL WATER IS TAKEN AS BEING EQUAL TO THE TOTAL PRODUCTION RATE. THIS IS EQUIVALENT TO ASSUMING SHORT LAND STORAGE TIME IN TERMS OF 18 YRS--THE TRITIUM AVERAGE LIFE. THIS PRODUCTION RATE CORRESPONDS TO AN INVENTORY OF ABOUT 1800 G, WITH ONE ABOUT 1% OF THIS IN THE ATMOSPHERE. THE TRITIUM CONTENTS OF VINTAGE WINES APPEAR TO AGREE WITH THE TIME ELAPSED SINCE BOTTLING, INDICATING THE TRITIUM ABUNDANCES OVER THE LAST 18 YRS HAS BEEN ESSENTIALLY EQUAL TO THE PRESENT ONES. SOME OF THE POSSIBLE APPLICATIONS OF NATURAL TRITIUM TO PROBLEMS OF HYDROLOGY AND METEOROLOGY ARE DISCUSSED.
COSMIC RADIATION, IONIZING RADIATION, SURFACE WATERS, H-3, RADIATION, RADIONUCLIDES, DISTRIBUTION, METEOROLOGY, HYDROLOGY, BEVERAGES, WINES, PRODUCTION RATE, PRECIPITATION (METEOROLOGICAL), T/H RATIO

06254

W. J. KAUFMAN AND G. T. ORLOV
UNIVERSITY OF CALIFORNIA, DEPT. OF ENGINEERING, BERKELEY, CALIF.
AN EVALUATION OF GROUND-WATER TRACERS.
TRANSACTIONS OF THE AMERICAN GEOPHYSICAL UNION, VOL. 37, NO. 3, PP 297-306, 1956, 7 FIGS., 2 TABS.
10 REFS.

THE IDEAL GROUND-WATER TRACER SHOULD CORRECTLY DEPICT THE MOVEMENT OF WATER THROUGH A POROUS MEDIUM WITHOUT MODIFYING THE TRANSMISSION CHARACTERISTICS OF THE SYSTEM. CATIONIC MATERIALS, INCLUDING RADIOISOTOPES AND CERTAIN ORGANIC DYES, ARE GENERALLY UNSATISFACTORY AND ANIONIC RADIOISOTOPES WHEN USED WITHOUT STABLE CARRIERS MAY BE LARGELY RETAINED BY ADSORPTION. CHLORIDE MAY BE SATISFACTORILY USED WHERE DENSITY EFFECTS CAN BE AVOIDED AND DISPERSION OF CLAYS IS NOT LIKELY. ORGANIC MATERIALS ARE SUBJECT TO DECOMPOSITION BY SOIL MICROORGANISMS AND HENCE THEIR VALUE AS WATER TRACERS ARE LIMITED. TRITIUM, WHEN USED AS HTO, MAY EXCHANGE WITH SOIL BOUND WATER WITH A RESULTING REDUCTION IN VELOCITY OF THE TRACER FRONT. (AUTHS.)
GROUND WATER, WATER, TRACERS, H-3, RADIONUCLIDES, CHLORIDES, DYES, FLUORESCIN, I-131, CA-40, CA-45, SOILS, TRANSPORT, VELOCITY TRITIATED WATER

06255

D. LAL AND R. N. ATHAVALE
TATA INSTITUTE OF FUNDAMENTAL RESEARCH, COLABA, BOMBAY, INDIA
THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. I. TECHNIQUES.
PROCEEDINGS OF THE INDIAN ACADEMY OF SCIENCES, SECT. A, VOL. 63, PP 186-183, 1966, 9 FIGS., 18 REFS.

THE TECHNIQUES ADOPTED FOR THE MEASUREMENT OF TRITIUM WHICH PERMIT AN ACCURATE DETERMINATION OF T/H RATIOS WITHOUT CARRYING OUT AN ELECTROLYTIC ENRICHMENT ARE DISCUSSED. 20 ENRICHMENT FACTORS THEN SUFFICE TO MEASURE NATURAL LEVELS OF TRITIUM IN GROUND WATER OF UP TO 25 YRS AGE CORRESPONDING TO T/H RATIOS OF CIRCA 5×10^{10} .
GAS PROPORTIONAL COUNTERS, SCINTILLATION COUNTERS, GROUND WATER, T/H RATIO, RADIONUCLIDES, H-3, WATER, EQUIPMENT, INSTRUMENTS

BRYAN R. PAYNE, L. L. THATCHER, J. P. CAMERON AND T. FLORKOWSKI
INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA
THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY
AND HYDROLOGY. FINAL REPORT.
VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, IAEA-3162-1. 119 P., 1967, 61 FIGS., 10 TABS., 28
REFS.

U.S. AEC CONTRACT NO. AT(30-1)-3162.

AN ANALYTICAL SYSTEM IS DESCRIBED FOR THE ROUTINE CONCENTRATION AND MEASUREMENT OF THE MAXIMUM
NUMBER OF TRITIUM SAMPLES WITH CONCENTRATIONS GREATER THAN 0.5 T.U. TRITIUM DEPOSITION IS ESTIMATED
FOR USE IN THE DETERMINATION OF THE AMOUNT OF TRITIUM TRANSFERRED FROM THE STRATOSPHERE TO THE
TROPOSPHERE TO PROVIDE INSIGHT INTO FALLOUT TROPOSPHERE AND STRATOSPHERE, AND TO PREDICT FUTURE
TRITIUM FALLOUT. DATA ARE PRESENTED FOR DETERMINATION OF TRITIUM DEPOSITION BETWEEN 1962 AND 1965.

TRITIUM INVENTORY IN THE STRATOSPHERE AT THE END OF 1962 WAS APPROX 170 KG. IT WAS ESTIMATED
THAT APPROX 30 KG WERE STILL IN THE STRATOSPHERE AT THE END OF 1965. THE METHOD OF DETERMINING
THE AVERAGE TRITIUM CONCENTRATION USING SR-90 FALLOUT IS DISCUSSED.
PRECIPITATION (METEOROLOGICAL), GAS PROPORTIONAL COUNTERS, H-3, RADIONUCLIDES, O-18, EUROPE, MEDITERRANEAN,
AFRICA, ASIA, OCEANS, INDIAN OCEAN, PACIFIC OCEAN, NORTH AMERICA, SOUTH AMERICA, WINDS, DISTRIBUTION,
METEOROLOGY, CIRCULATION, FALLOUT, SR-90, DEPOSITION, STRATOSPHERE, TROPOSPHERE, TRANSFER, EQUIPMENT,
INSTRUMENTS, HYDROLOGY, DEUTERIUM

06257

DARLENE MOORE AND T. H. ESSIG, EDS. AND COMPS.
BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY
EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. APPENDICES.
RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, BNWL-316 (APP.). 45
P., 1966, 48 TABS.

U.S. AEC CONTRACT AT(45-1)-1830.

RESULTS OBTAINED FROM BOTH RADIOCHEMICAL ANALYSES OF ENVIRONMENTAL SAMPLES AND FROM RADIOLOGICAL
MEASUREMENTS MADE IN THE HANFORD AREA DURING 1965 ARE PRESENTED IN TABULAR FORM. ENVIRONMENTAL
SAMPLES CONSISTED OF AIR, COMMERCIAL FOODSTUFFS, FARM PRODUCE, FISH, MARINE ORGANISMS, WATERFOWL,
AND WATER SAMPLES FROM VARIOUS AREAS OF THE COLUMBIA RIVER. TRITIUM IN COLUMBIA RIVER RANGED FROM
LESS THAN 1000 TO 1800 PICOCURIES/L OF WATER.

HANFORD PROJECT, RADIOCHEMICAL ANALYSIS, ANALYSIS, ORGANS, GRASSLANDS, CHEMICAL ANALYSIS, ATMOSPHERE
(TERRESTRIAL), FOODS, CROPS, PLANTS, FISH, ANIMALS, THYROID GLAND, AQUATIC LIFE, ANAT/DAB, BIRDS,
OYSTERS, BENTHIC FAUNA, BENTHOS, MOLLUSKS, PELECYPODA, H-3, RADIONUCLIDES, MILK, COLUMBIA RIVER,
RIVERS, TRANSPORT, I-131, SR-90, NA-24, P-32, CR-51, CU-64, ZN-69, AS-76, GA-72, MN-56, NP-239,
ZN-65, CO-58, CO-60, CS-137, ZR-NB-95, CE-PR-144, DAIRY PRODUCTS, PASTURES, LIVESTOCK, COWS, K-40,
DOMESTIC ANIMALS

06258

J. K. SOLDAT AND T. H. ESSIG, EDS.
BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY
EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965.
RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, BNWL-316. 43 P., 1966,
23 FIGS., 7 TABS., 13 REFS.

U.S. AEC CONTRACT NO. AT(45-1)-1830.

THE EVALUATION OF RESULTS OBTAINED FROM HANFORD ENVIRONMENTAL SURVEILLANCE PROGRAM FOR 1965
INDICATES THAT MOST OF THE ENVIRONMENTAL RADIATION DOSE RECEIVED BY THE MAJORITY OF PERSONS LIVING
IN THE NEIGHBORHOOD OF THE HANFORD PROJECT WAS DUE TO NATURAL SOURCES AND WORLD-WIDE FALLOUT RATHER
THAN TO HANFORD OPERATIONS. OF THE LOW-LEVEL WASTES THAT WERE RELEASED TO THE ENVIRONMENT FROM
THE HANFORD PLANTS, NEUTRON-INDUCED RADIONUCLIDES PRESENT IN REACTOR COOLING WATER DISCHARGED TO
THE COLUMBIA RIVER CONTINUED TO BE THE SOURCE OF GREATEST POTENTIAL RADIATION DOSE TO PEOPLE IN
THE ENVIRONS. FIGURED IS THE PROBABLE EXTENT AND CONCENTRATION OF TRITIUM IN THE GROUND WATER IN
DEC. 1965. TRITIUM CONCENTRATION IN RIVER WATER WAS TOO SMALL TO BE DETECTED.

HANFORD PROJECT, WASTES, ENVIRONMENTAL RADIATION, RADIATION, WATER, RADIOACTIVE WASTE DISPOSAL,
WASTE DISPOSAL, COOLING WATER, RIVERS, RADIATION EXPOSURE, COLUMBIA RIVER, H-3, RADIONUCLIDES, GROUND
WATER, RADIOACTIVE WASTES

06259

FRIEDRICH BEGEMANN AND IRVING FRIEDMAN
P. BEGEMANN, MAX-PLANCK INSTITUTE OF CHEMISTRY, MAINZ, GERMANY; I. FRIEDMAN, U.S. GEOLOGICAL SURVEY,
DENVER, COLO.

TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC METHANE.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 73, NO. 4, PP 1149-1153, 1968, 3 FIGS., 1 TAB., 9 REFS.

TRITIUM CONCENTRATION IN THE NORTHERN HEMISPHERE HAS BEEN ESSENTIALLY CONSTANT SINCE 1958,
THE TIME THE FIRST SAMPLES WERE ANALYZED. EXISTING THEORIES TO EXPLAIN THE ORIGIN OF TRITIATED
METHANE ARE DISCUSSED AND REJECTED AS HIGHLY IMPROBABLE. THE DATA CAN BEST BE EXPLAINED BY ASSUMING
THAT LEAKAGE OF TRITIATED METHANE INTO THE ATMOSPHERE FROM SOURCES IN NUCLEAR INDUSTRY LOCATED
IN THE NORTHERN HEMISPHERE OCCURRED FOR A PERIOD OF YEARS PRIOR TO 1958, AND THEN THE LEAK WAS
ESSENTIALLY CLOSED.

ATMOSPHERE (TERRESTRIAL), H-3, RADIONUCLIDES, METHANE, GASES, GERMANY, DEUTERIUM, INDIANA

06263

K. P. WYLIE, W. A. BIGLER, AND G. R. GROVE
MONSANTO RESEARCH CORPORATION, MIAMISBURG, OHIO
BIOLOGICAL HALF-LIFE OF TRITIUM.
HEALTH PHYSICS, VOL. 9, PP 911-914, 1963, 2 FIGS., 1 TAB., 11 REFS.

U.S. AEC CONTRACT NO. AT-33-1-GEN-53.

AN 8.5-DAY BIOLOGICAL HALF-LIFE FOR TRITIUM WAS DETERMINED FROM 7 OCCURRENCES IN 6 MALES.

A METHOD FOR ESTIMATING THE AVERAGE TOTAL BODY WATER IS PRESENTED. AN AVERAGE BODY-WATER TO EFFECTIVE-BODY
WEIGHT RATIO OF 0.60 WAS CALCULATED. (AUTHS.)

H-3, RADIONUCLIDES, BIOLOGICAL HALF-LIFE, HALF-LIFE, MAN

06264

JAMES N. P. LAWRENCE
LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.
ESTIMATION OF WHOLE BODY DOSE (REM) FROM TRITIUM IN BODY WATER.
LOS ALAMOS, N. MEX., UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LA-2163. 22 P.,
1958, FIGS., TABS., 3 REFS.

U.S. AEC CONTRACT W-7405-ENG-36.

THE MOST REASONABLE METHOD OF DETECTING TRITIUM IN THE BODY IS BY URINALYSIS. A DETAILED
PROCEDURE, IN USE AT LASL SINCE 1953, IS GIVEN FOR ESTIMATING THE WHOLE BODY EXPOSURE FROM A KNOWN
CONCENTRATION OF TRITIUM IN THE BODY WATER. AS PRESENTED IT IS BASED ON 1956 ACCEPTED STANDARDS
OF A PERMISSIBLE BODY BURDEN OF 3.7 MC, A 43.4 KG CRITICAL ORGAN (TOTAL BODY WATER), AND A 1.7
RBE FOR TRITIUM IN THE BODY. (AUTH.)

WHOLE BODY EXPOSURE, RADIATION EXPOSURE, BODY BURDEN, URINE, H-3, RADIONUCLIDES

06265

P. WURZEL AND P.R.B. WARD
P. WURZEL, MINISTRY OF WATER DEVELOPMENT, SALISBURY, RHODESIA; P.R.B. WARD, UNIVERSITY OF CALIFORNIA,
DIVISION OF HYDRAULIC AND SANITARY ENGINEERING, BERKELEY, CALIF.
GROUNDWATER STUDIES IN THE SABI VALLEY, RHODESIA, USING NATURAL TRITIUM MEASUREMENTS.
JOURNAL OF HYDROLOGY, VOL. 8, NO. 1, PP 48-58, 1969, 2 FIGS., 1 TAB., 10 REFS.

ENVIRONMENTAL TRITIUM WAS USED AS A GROUND-WATER TRACER IN THE SABI VALLEY ALLUVIAL PLAIN
AND FLOW DATA OBTAINED ON A REGIONAL SCALE. IT IS SHOWN THAT ITS GROUND-WATER MOVEMENT IS CLOSELY

APPROXIMATED BY PISTON-TYPE FLOW AND THE TRITIUM CONTENT IN BOREHOLES ARE RELATED TO TRITIUM INPUT IN 2 AREAS OF RECHARGE. THE RESULTS, INDICATE THAT SABI RIVER IS PLAYING A GREATER PART IN THE GROUND-WATER REGIME OF THE ALLUVIAL PLAIN THAN WAS ORIGINALLY ANTICIPATED. VELOCITY OF MOVEMENT OF THE GROUND WATER IS DEDUCED AS 2-5 FT/DAY. THE LOW-LEVEL TRITIUM COUNTING SYSTEM USED IS BRIEFLY DESCRIBED, AND THE LIMIT AND ACCURACY MEASUREMENT IS DISCUSSED.

GROUND WATER, WATER, H-3, RADIONUCLIDES, RADIOACTIVE AGE DETERMINATION, TRACERS, MOVEMENT, SABI VALLEY, RHODESIA

06266

J. H. HORTON AND D. I. ROSS
E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, GA.
USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER.
SOIL SCIENCE, VOL. 90, NO. 5, PP 267-271, 1960, 3 FIGS., 7 REFS.
U.S. AEC CONTRACT NO. AT(07-2)-1.

THE RESULTS OF A STUDY TO DETERMINE THE USEFULNESS OF THE TRITIUM PRESENT IN LIQUID WASTE FROM THE CHEMICAL SEPARATION OF SPENT URANIUM FUEL ELEMENTS AS AN AID IN TRACING GROUND WATER NEAR RADIOACTIVE-WASTE GROUND DISPOSAL AREAS ARE PRESENTED. THE STUDY SHOWED THAT TRITIUM CAN BE USED TO TRACE THE MOVEMENT OF GROUND WATER FROM SEEPAGE BASINS THAT RECEIVE THE WASTE. RADIOACTIVE WASTE DISPOSAL, RADIOACTIVE WASTES, WASTE DISPOSAL, WATER, WASTES, MOVEMENT, GROUND WATER, TRACERS, RADIONUCLIDES, H-3, STREAMS, SAVANNAH RIVER PLANT

06267

JACK W. KEELEY AND MARION R. SCALP
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, ROBERT S. KERR WATER RESEARCH CENTER, ADA, OKLA.
AQUIFER STORAGE DETERMINATION BY RADIOTRACER TECHNIQUES.
GROUND WATER, VOL. 7, NO. 1, PP 17-22, 1969, 9 FIGS., 1 TAB., 10 REFS.

A TRITIUM TRACER WAS USED TO DETERMINE THE DETENTION TIME OF THE RECHARGE WATER PASSING THROUGH A SATURATED VOLUME OF THE AQUIFER. TRACER BEHAVIOR WAS FORMULATED MATHEMATICALLY AND VERIFIED BY MODEL SIMULATION. THE FORMULATIONS PROVIDE A GRAPHICAL SOLUTION FOR THE DETENTION TIME FROM WHICH THE STORAGE COEFFICIENT MAY BE CALCULATED. THE METHOD WILL HAVE IMMEDIATE VALUE IN ESTABLISHING STORAGE COEFFICIENTS OF AQUIFERS, WHERE PLANS FOR IMPORTATION AND DISTRIBUTION OF SUPPLEMENTAL WATER INVOLVE UTILIZATION OF UNDERGROUND STORAGE. REGARDING WATER-TABLE CONDITIONS, THIS METHOD PROMISES TO PRODUCE MORE RELIABLE STORAGE VALUES THAN HAVE BEEN OBTAINED FROM PUMPING TESTS.

H-3, RADIONUCLIDES, TRACERS, WATER STORAGE, AQUIFERS, MODELS, MATHEMATICAL MODELS, GROUND WATER, CONCENTRATION (PROCESS)

06268

FRANK W. STBAD
U.S. GEOLOGICAL SURVEY, DENVER, COLO.
TRITIUM DISTRIBUTION IN GROUND WATER AROUND LARGE UNDERGROUND FUSION EXPLOSIONS.
SCIENCE, VOL. 142, PP 1163-1165, 1963, 3 TABS., 17 REFS.

TRITIUM WILL BE RELEASED IN SIGNIFICANT AMOUNTS FROM LARGE UNDERGROUND NUCLEAR FUSION EXPLOSIONS IN THE PLOWSHARE PROGRAM. TRITIUM COULD BECOME HIGHLY CONCENTRATED IN NEARBY GROUND WATER, AND COULD BE OF EQUAL OR MORE IMPORTANCE AS A POSSIBLE CONTAMINANT THAN OTHER LONG-LIVED FISSION-PRODUCT AND INDUCED RADIONUCLIDES. BEHAVIOR OF TRITIATED WATER IN PARTICULAR HYDROLOGIC AND GEOLOGIC ENVIRONMENTS, AS ILLUSTRATED BY HYPOTHETICAL EXPLOSIONS IN DOLOMITE AND TUFF, MUST BE CAREFULLY EVALUATED TO PREDICT UNDER WHAT CONDITIONS HIGH GROUND-WATER CONCENTRATIONS OF TRITIUM MIGHT OCCUR. (AUTH.)

H-3, RADIONUCLIDES, UNDERGROUND NUCLEAR EXPLOSIONS, EXPLOSIONS, NUCLEAR EXPLOSIONS, GROUND WATER, WATER, PLOWSHARE PROGRAM, DISTRIBUTION, TRITIATED WATER

06269

W. AMBACH, H. EISNER AND G. SAUZAY
W. AMBACH AND H. EISNER, UNIVERSITY OF INNSBRUCK, INSTITUTE OF PHYSICS; G. SAUZAY, INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, AUSTRIA
TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA.
ARCHIV FÜR METEOROLOGIE, GEOPHYSIK UND BIOKLIMATOLOGIE, SER. B, ALLGEMEINE UND BIOLOGISCHE KLIMATOLOGIE, VOL. 17, PP 93-104, 1969, 6 FIGS., 11 REFS.

USING 2 FIRN PROFILES, THE TRITIUM CONCENTRATION OF PRECIPITATION IN THE ALPS WAS EVALUATED FOR THE PERIOD 1953 TO 1961. THE DISTURBING EFFECT EXERTED BY CONTAMINATION OF THE FIRN SAMPLES BY THE ATMOSPHERIC MOISTURE DURING THE COLLECTION OF THE SAMPLES WAS CONSIDERED AND THE DATING OF SAMPLES WAS MADE WITH THE RESULTING CORRECTION. PRESENTED IS A NEARLY COMPLETE H-3 PROFILE OF EUROPEAN PRECIPITATION FOR 15 YRS.

PRECIPITATION (METEOROLOGICAL), SNOW, ALPINE, RADIONUCLIDES, H-3, ALPS, MOUNTAINS, FIRN

06270

S. ARONOFF AND IVAN C.-S. CHOI
IOWA STATE UNIVERSITY, DEPT. OF BIOCHEMISTRY AND BIOPHYSICS, AMES, IOWA
SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER.
ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, VOL. 102, PP 159-160, 1963, 2 FIGS., 1 TAB., 3 REFS.

IT IS OF INTEREST TO KNOW WHETHER SUGARS FORMED FROM WATER DURING A TIME OF NEAR EQUILIBRATION WITH HTO, ARISE FROM A SOURCE OF REDUCING AGENT NOT IN RAPID EQUILIBRIUM WITH THE WATER AND RESULTING IN VERY LOW SPECIFIC ACTIVITY. ALTERNATIVELY, THE VAPOR PHASE OF THE ENTERING HTO MIGHT BE UTILIZED PERPETUALLY BY THE CHLOROPLAST BEFORE ISOTOPIC EQUILIBRIUM IS ACHIEVED WITH THE CYTOPLASM, RESULTING IN SUGARS WITH A SPECIFIC ACTIVITY HIGH RELATIVE TO THAT OF THE WATER. IT IS CONCLUDED THAT THE SUGAR HYDROGENS, WHATEVER THEIR IMMEDIATE SOURCE, IF NOT WATER ITSELF, ARE DERIVED FROM A REDUCING AGENT IN RELATIVELY RAPID EQUILIBRIUM WITH WATER. THE DIVERGENCIES IN POOL SIZES, TURNOVER RATES, AND POSSIBLE ISOTOPE EFFECTS ARE CONSIDERED.

SOYBEANS, CROPS, LEGUMES, PLANTS, H-3, RADIONUCLIDES, WATER, LEAVES, PHOTOSYNTHESIS, SPECIFIC ACTIVITIES, CARBOHYDRATES, SUGARS, TRITIATED WATER

06271

JOHN J. KORANDA, JOHN R. MARTIN AND ROBERT WIKKERINK
RESIDUAL TRITIUM AT SEDAN CRATER. PART II. SOIL AND EJECTA STUDIES.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50360. 44 P., 1967, 31 FIGS., 1 TAB., 10 REFS.

SEASONAL VARIATIONS IN THE CONCENTRATIONS OF TRITIUM IN SOIL WATER OCCUR MAINLY DURING THE WINTER RAINFALL PERIOD. DILUTION EFFECTS WERE OBSERVED TO A DEPTH OF 3 FT. DILUTED TRITIUM CONCENTRATIONS IN THE SURFACE STRATA OF SOIL (6 IN. TO 3 FT) INCREASE TO ALMOST THE PRE-DILUTION LEVELS DURING THE SUMMER AS A RESULT OF SOIL MOISTURE MOVEMENTS. WHEN SEDAN EJECTA OCCURS AS A SHALLOW LAYER OVERLYING THE PRESHOT SOIL, MAXIMUM TRITIUM CONCENTRATIONS ARE FOUND AT THE MAXIMUM DEPTH OF RAINFALL PENETRATION, OR APPROX 3 FT. MAXIMUM CONCENTRATION OF TRITIUM IN EJECTA ON THE SEDAN CRATER LIP IS FOUND AT A DEPTH OF 4 TO 5 FT AND IS CORRELATED WITH THE DEPTH OF EJECTA MATERIALS FOUND AROUND THE CRATER LIP. THE TRITIUM INVENTORY MEASUREMENTS ARE ESSENTIALLY OF BIOLOGICALLY AVAILABLE WATER IN THE SOIL SYSTEM. WHEN DATA ARE CORRECTED TO TOTAL SOIL-WATER TRITIUM VALUES, THE INVENTORY OF TRITIUM OUTSIDE THE SEDAN CRATER IN 1967, WAS 5 TO 6% OF THE ESTIMATED INVENTORY OF THE RESIDUAL TRITIUM IN THE EJECTA AT SHOT TIME.

PRECIPITATION (METEOROLOGICAL), SEASONAL VARIATIONS, SOIL MOISTURE, PERIODIC VARIATIONS, H-3, RADIONUCLIDES, SEDAN, SOILS, EJECTA, WATER, MOISTURE, RAINFALL, DEPTH, PLOWSHARE PROGRAM, NEVADA TEST SITE

06272

JOHN J. KORANDA, JOHN R. MARTIN, AND ROBERT W. WIKKERINK
LEACHING OF RADIONUCLIDES AT SEDAN CRATER.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-70630. 46 P., 1968, 18 FIGS., 3 TABS., 11 REFS. (ALSO IN- ADVANCES IN CHEMISTRY SERIES, VOL. 93, PP 97-117,

1970.)

DISTRIBUTION OF TRITIUM AND LONG-LIVED GAMMA RADIOACTIVITY WAS STUDIED IN CRATER EJECTA FROM THE SEDAN DETONATION. TRITIUM CONCENTRATIONS WERE DETERMINED IN SOIL WATER EXTRACTED FROM CRATER EJECTA SAMPLES COLLECTED FROM THE SURFACE TO 6 FT, AND AT DISTANCES OF 3000 FT FROM THE CRATER. THE DISTRIBUTION OF TRITIUM WAS VERY OBVIOUSLY MODIFIED BY POSTSHOT ENVIRONMENTAL EFFECTS, ESPECIALLY RAINFALL LEACHING. MAXIMUM TRITIUM CONCENTRATIONS WERE FOUND BELOW THE STRATA IN WHICH THEY WERE DEPOSITED. GAMMA RADIONUCLIDES EXHIBITED LIMITED MOVEMENT IN THE CRATER EJECTA STRATA OR IN PRESHOT SOIL COVERED BY SEDAN EJECTA. A SUBTLE LEACHING OF CS-137 WAS DEMONSTRATED BY CONSIDERING THE CS-137/MN-54, RATIOS IN THE EJECTA STRATA. (AUTHS.)

LEACHING, H-3, RADIONUCLIDES, CS-137, CS-137/MN-54 RATIO, SEDAN, SOIL MOISTURE, MOISTURE, WATER, DISTRIBUTION, RAINFALL, DEPTH, EJECTA, PRECIPITATION (METEOROLOGICAL), VERTICAL DISTRIBUTION, PLOWSHARE PROGRAM, NEVADA TEST SITE

06273

F. S. NAKAYAMA AND R. D. JACKSON
U.S. DEPT. OF AGRICULTURE, AGRICULTURAL RESEARCH SERVICE, SOIL AND WATER CONSERVATION DIVISION
DIFFUSION OF TRITIATED WATER IN SOILS.
SOIL SCIENCE SOCIETY OF AMERICA PROCEEDINGS, VOL. 27, PP 255-258, 1963, 2 FIGS., 3 TABS., 13 REFS.

THE APPARENT DIFFUSION COEFFICIENT OF TRITIATED WATER (D_{H₂O}) WAS MEASURED IN 4 SOIL MATERIALS AND 2 SIZES OF GLASS BEADS AT ABOUT 40% WATER CONTENT BY VOLUME, AND IN AGAR GEL. THE APPARENT D_{H₂O} MAY INCLUDE DIFFUSION IN THE LIQUID, VAPOR, AND POSSIBLY ABSORBED PHASES. FOR PACHAPPA LOAM, D_{H₂O} WAS DETERMINED IN DETAIL AS A FUNCTION OF WATER CONTENT. THE D_{H₂O} WAS NEARLY CONSTANT FOR VOLUMETRIC WATER CONTENTS OF 10 TO 40%. AS THE WATER CONTENT DECREASED BELOW 10%, THE D_{H₂O} RAPIDLY INCREASED TO A MAXIMUM AT ABOUT 4% WATER CONTENT, THEN RAPIDLY DECREASED AS THE WATER CONTENT WAS FURTHER REDUCED. THE MAXIMUM VALUE OF D_{H₂O} IS 3.5 TIMES GREATER THAN D_{H₂O} AT 40% WATER CONTENT. (AUTHS.)

DIFFUSION, WATER, SOILS, H-3, RADIONUCLIDES, TRACERS, TRITIATED WATER, CLAYS, DIFFUSION COEFFICIENT

06274

R. E. PHILLIPS AND D. A. BROWN
R. E. PHILLIPS, UNIVERSITY OF KENTUCKY, DEPT. OF AGRONOMY, LEXINGTON, KY.; D. A. BROWN, UNIVERSITY OF ARKANSAS, DEPT. OF AGRONOMY, FAYETTEVILLE, ARK.
SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY.
SOIL SCIENCE SOCIETY OF AMERICA PROCEEDINGS, VOL. 32, PP 302-306, 1968, 4 FIGS., 1 TAB., 16 REFS.

THE QUICK-FREEZE TECHNIQUE OF MEASURING DIFFUSION COEFFICIENTS OF IONS IN CLAYS AND SOILS WAS ADAPTED TO THE MEASUREMENT OF SELF-DIFFUSION COEFFICIENTS OF TRITIATED WATER IN CLAYS. THE SELF-DIFFUSION COEFFICIENTS OF TRITIATED WATER WERE APPROX EQUAL IN THE KAOLINITE AND MONTMORILLONITE CLAYS. THE WATER CONTENTS, OVEN-DRY WEIGHT BASIS, USED FOR MONTMORILLONITE WERE 125.0, 118.5, 100.0, AND 87.0%; THE WATER CONTENT USED FOR KAOLINITE WERE 80.5, 55.0, 43.5, AND 39.0%. THE CALCULATED AVERAGE NUMBER OF WATER LAYERS ON EACH MINERAL SURFACE RANGED FROM 3.5 TO 5.5 FOR MONTMORILLONITE AND FROM 17 TO 26 FOR KAOLINITE. THE SELF-DIFFUSION COEFFICIENTS INCREASED IN A LINEAR MANNER AS THE AVERAGE NUMBER OF WATER LAYERS PRESENT ON EACH MINERAL SURFACE INCREASED; A SLIGHTLY DIFFERENT RATE OF INCREASE WAS OBTAINED FOR EACH OF THE 2 CLAYS. THE LACK OF DIFFERENCE OF THE DIFFUSION COEFFICIENTS IN THE 2 CLAYS COULD NOT BE EXPLAINED ON THE BASIS OF CHARGE DENSITY OF THE CLAYS NOR WAS A DIFFERENCE IN VISCOSITY A PLAUSIBLE EXPLANATION. A LONGER PATH LENGTH OF THE DIFFUSING WATER MOLECULES IN THE KAOLINITE AND A SMALLER RELATIVE MOBILITY OF THE DIFFUSING WATER MOLECULES IN THE MONTMORILLONITE IS GIVEN AS A POSSIBLE EXPLANATION. (AUTHS.)

DIFFUSION, H-3, RADIONUCLIDES, MONTMORILLONITE, KAOLINITE, TRITIATED WATER, TRACERS, WATER, CLAYS, SEDIMENTS, SOILS, DIFFUSION COEFFICIENT

06275

NORMAN F. BAKER, ARTHUR L. BLACK, RAJAN S. ANAND, AND ROBERT A. PISK
UNIVERSITY OF CALIFORNIA, SCHOOL OF VETERINARY MEDICINE, DAVIS, CALIF.
BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS.
EXPERIMENTAL PARASITOLOGY, VOL. 17, PP 271-276, 1965, 1 FIG., 4 TABS., 8 REFS.

THE MEAN TOTAL BODY WATER VOLUME IN PARASITIZED ANIMALS WAS 78% OF THE BODY WEIGHT. THIS REPRESENTS AN INCREASE OF 6 TO 15% OVER THAT FOUND IN NORMAL ANIMALS OF SIMILAR AGE. THE MEAN TURNOVER RATE (POOL FRACTION PER DAY) OF BODY WATER IN NORMAL ANIMALS WAS 0.223 WHILE THAT OF PARASITIZED CATTLE WAS 0.110. AFTER THERAPY THE TURNOVER RATE IN PARASITIZED CATTLE BEGAN TO INCREASE WITHIN 2 TO 5 DAYS. BETWEEN 20 AND 30 DAYS AFTER TREATMENT THE MEAN TURNOVER RATE WAS 0.158. THE REDUCED TURNOVER RATE OF BODY WATER, ASSUMING A STEADY STATE, REVEALS THAT IN ONE GROUP OF PARASITIZED ANIMALS THE MEAN DAILY WATER FLUX WAS ONLY 13.4 L, WHEREAS IN NORMAL ANIMALS HAVING A COMPARABLE TOTAL BODY WATER VOLUME THE MEAN DAILY FLUX WOULD HAVE BEEN 27.2 L.

4-06A080 (WORMS), BODY WATER, BODY FLUIDS, HALF-LIFE, TRITIATED COMPOUNDS, H-3, RADIONUCLIDES, COWS, DOMESTIC ANIMALS, ANIMALS, LIVESTOCK, DISEASES, TRACERS, BIOLOGICAL HALF-LIFE, ELIMINATION, TRITIATED WATER

06277

K. E. COWSER AND JACOB TADMOR
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY.
IN- HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR THE PERIOD ENDING JULY 31, 1968. K. Z. MORGAN, W. S. SNYDER, AND E. G. STRUXNESS EDS. OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-4316. PP 47-50, 1968, 2 TABS., 9 REFS.

U.S. AEC CONTRACT NO. W-7405-ENG-26.

THE PATHWAYS OF EXTERNAL AND INTERNAL EXPOSURE ARE EXAMINED FOR A HYPOTHETICAL FUEL REPROCESSING PLANT SITED AT ORNL BASED ON PREVIOUSLY DEVELOPED EQUATIONS TO PREDICT DOSE EQUIVALENTS TO MAN. KR-85, H-3, RADIONUCLIDES, DOSE ESTIMATION, WASHOUT, RAINOUT, FALLOUT, RADIATION EXPOSURE, MODELS, INHALATION, INGESTION, SKIN ABSORPTION, DOSE EQUIVALENTS, MAN, REACTOR FUELS, REPROCESSING, EQUATIONS

06278

D. G. JACOBS
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE ENVIRONMENT.
IN- HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR THE PERIOD ENDING JULY 31, 1968. K. Z. MORGAN, W. S. SNYDER, AND E. G. STRUXNESS EDS. OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-4316. PP 50-51, 1968, 1 TAB., 16 REFS.

U.S. AEC CONTRACT NO. W-7405-ENG-26.

MOST TRITIUM IS RETAINED UNTIL FUELS ARE REPROCESSED, WHEN IT FOLLOWS ORDINARY WATER AND IS RELEASED TO THE ENVIRONMENT IN LOW-LEVEL AQUEOUS WASTE STREAMS. MOST OF THE STACK RELEASE IS IN THE FORM OF TRITIATED WATER VAPOR, ALTHOUGH PART OF THE RELEASE MAY BE AS HT. TRITIUM RELEASED AS HT GAS OXIDIZES AT A RATE RANGING FROM 0.2 TO 3% PER DAY. ONCE THE TRITIUM IS OXIDIZED, IT WILL BECOME DISPERSED IN MUCH THE SAME MANNER AS ORDINARY WATER. TRITIUM RELEASED TO THE TROPOSPHERE FROM THE STRATOSPHERE HAS A MEAN RESIDENCE TIME ESTIMATED TO RANGE FROM 21 TO 40 DAYS. TRITIUM MAY ALSO BE TRANSFERRED BETWEEN THE AIR AND THE EARTH'S SURFACE BY VAPOR EXCHANGE. VAPOR EXCHANGE MAY ACCOUNT FOR 2/3 OF THE TRITIUM REMOVED INTO THE OCEANS. THE OCEANS AND SEAS REPRESENT THE LARGEST RESERVOIRS FOR DILUTION. TRITIUM IS NOT LIKELY TO BECOME UNIFORMLY DISTRIBUTED THROUGHOUT THESE RESERVOIRS, BECAUSE ONLY A SMALL FRACTION OF THIS TOTAL VOLUME OF WATER CIRCULATES ANNUALLY. H-3, RADIONUCLIDES, BEHAVIOR, ENVIRONMENTS, OXIDATION, FALLOUT, RESIDENCE TIME, STRATOSPHERE, OCEANS, TRITIATED WATER

06279

F. S. ROHWER, S. V. KAYE, K. E. COWSER, W. S. SNYDER, AND E. G. STRUXNESS
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.

IN- HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR THE PERIOD ENDING JULY 31, 1966 K Z
MORGAN, W S SNYDER, AND E G STRUNKNESS EDS OAK RIDGE, TENN, OAK RIDGE NATIONAL LABORATORY,
ENL-4316 PP 60-68, 1966, 4 FIGS, 2 TABS, 14 REFS
U S AEC CONTRACT NO W-7405-ENG-26

DISCUSSES TECHNIQUES FOR ESTIMATING THE RADIATION DOSE RECEIVED BY A POPULATION IN BOTH
INTERNAL AND EXTERNAL DOSIMETRY, THE EXPECTED DOSE IS STRESSED AS OPPOSED TO THE MAXIMUM DOSE OR
UPPER LIMIT OF DOSE WHEN DOSE ESTIMATES ARE MADE AS REALISTIC AS POSSIBLE, CRITICAL GROUPS IN
THE POTENTIALLY EXPOSED POPULATIONS CAN BE IDENTIFIED AND AN ADVANCE REMEDIAL ACTION TAKEN TO PROTECT
THE SAFETY OF THESE CRITICAL POPULATION GROUPS A MODEL OF ESTIMATING DOSE EQUIVALENTS RECEIVED
BY A POPULATION EXPOSED TO TRITIUM IS GIVEN
BIOLOGICAL HALF-LIFE, HALF-LIFE, INHALATION, AGE, BODY FLUIDS, MODELS, BODY WATER, EXTERNAL DOSE,
INTERNAL DOSE, H-3, RADIONUCLIDES, DOSE EQUIVALENTS, RADIATION EXPOSURE, DOSE ESTIMATION, MAN,
FLOWSHARE PROGRAM, TRITIATED WATER

06280

M L BIDINOFF, G C PERRI, J E KNOLL, B J MARANO, AND J ARNHEIM
SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH, DIVISION OF PHYSICS AND BIOPHYSICS, NEW YORK, N
Y

THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, VOL 75, PP 248-249, 1953, 1 TAB, 8 REFS
U S AEC CONTRACT NO AT(30-1)-910

H₂O AND HTO WERE ADMINISTERED TO RATS IN ORDER TO BRING THE DEUTERIUM BODY WATER LEVEL UP
TO ABOUT 2% AND THEN DRINKING WATER HAVING THE SAME T/D RATIO WAS SUPPLIED FOR SEVERAL DAYS TO
MAINTAIN THIS LEVEL ANALYSIS OF THE GLYCOGEN AND FATTY ACID FRACTIONS FROM THE LIVERS OF THESE
ANIMALS SHOWS A PREPREFERENTIAL INCORPORATION OF THE DEUTERIUM BY APPROXIMATELY 8 AND 18%
FRACTIONATION, DEUTERIUM, BIOLOGICAL SYSTEMS, H-3, RADIONUCLIDES, RATS, ANIMALS, MAMMALS, RODENTS

06281

D C LEWIS AND R H BURG
UNIVERSITY OF CALIFORNIA, DEPT OF IRRIGATION, DAVIS, CALIF
THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM
TRACING

JOURNAL OF GEOPHYSICAL RESEARCH, VOL 69, NO 12, PP 2579-2588, 1964, 6 FIGS, 5 TABS, 6 REFS
A DETAILED HYDROGEOLOGIC INVESTIGATION ON A FOOTHILL PILOT WATERSHED INCLUDED DIAMOND CORE
DRILL HOLES WHICH PENETRATED THE FRACTURED AND JOINTED METAMORPHIC ROCK WELL INTO THE SATURATED
ZONE THESE HOLES PROVIDED OBSERVATION WELLS FOR GROUND WATER MEASUREMENTS AND ACCESS FOR THE INJECTION
OF HTO INTO THE GROUND-WATER ZONE OVER A 3-YR PERIOD, INJECTIONS WERE MADE AT VARIOUS LOCATIONS
WHERE THE GROUND WATER OCCURS AT DIFFERENT DEPTHS FROM GROUND SURFACE IN ALL THE INJECTION TESTS,
SIGNIFICANT AMOUNTS OF HTO WERE FOUND IN THE WATER EXTRACTED FROM THE FRACTURED ROCK BY THE OAK
TREES SIZE AND SPECIES OF THE OAK TREES DO NOT INFLUENCE THE UPTAKE OF THE INJECTED HTO FROM
THE GROUND WATER RESULTS OF THE EXPERIMENT SHOW THAT THE OAKS EXTEND ROOTS THROUGH THE FRACTURED
ROCK TO DEPTHS IN EXCESS OF 10 FT THE NUMBER OF OAK TREES IN WHICH THE UPTAKE OF INJECTED HTO
WAS DETECTED INDICATES THAT ALL OAK TREES IN THE STUDY AREA USE WATER FROM THE CAPILLARY ZONE IMMEDIATELY
ABOVE THE WATER TABLE DURING THE SUMMER AND FALL MONTHS, A FACT SUPPORTED BY OBSERVATIONS OF THE
DECLINE OF GROUND-WATER LEVELS DURING THESE SEASONS THE DECLINE OCCURS AT NEARLY THE SAME RATE
REGARDLESS OF THE DEPTH TO GROUND WATER OR THE LOCATION OF THE WELL ON THE WATERSHED
H-3, RADIONUCLIDES, TRACERS, ROCK, QUERCUS, FAGACEAE, PLANTS, TREES, ROOTS, GROUND WATER, WATER,
ABSORPTION, TRANSPIRATION, DEPTH, TRITIATED WATER, HYDROGEOLOGY

06283

RICHARD F FIRESTONE
WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO
THE RADIATION CHEMISTRY OF WATER VAPOR THE INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF D-ATOMS
WITH WATER MOLECULES

JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, VOL 79, PP 5593-5598, 1957, 3 FIGS, 2 TABS, 10 REFS
AN INVESTIGATION OF THE TRITIUM BETA-RAY INDUCED EXCHANGE BETWEEN DEUTERIUM GAS AND WATER
VAPOR CONTAINING HTO WAS MADE IN ORDER TO MEASURE THE RADICAL-PAIR AND WATER DECOMPOSITION YIELDS
IN IRRADIATED WATER VAPOR A VALUE FOR THE RADICAL-PAIR YIELD OF 11.7 RADICAL PAIRS/100 E V WAS
DETERMINED THE EXCHANGE TAKES PLACE VIA A CHAIN MECHANISM ABOVE 150 DEGREES EVIDENCE FOR THE
CHAIN-PROPAGATING STEP DEUTERIUM PLUS HOH EQUALS HYDROGEN PLUS DOH IS PRESENTED AN APPARENT ACTIVATION
ENERGY OF 18 KCAL/MOLE WAS ASSIGNED TO THIS REACTION RESULTS FROM THE RADIOLYSIS OF PURE WATER
VAPOR INDICATE AN UPPER LIMIT OF 0.02 FOR G(H₂)
DECOMPOSITION REACTIONS, H-3, DEUTERIUM, WATER VAPOR, WATER, GASES, RADIOLYSIS, RADIOCHEMISTRY,
RADIONUCLIDES, EXCHANGE

06285

W M JONES
UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N MEX
THERMODYNAMIC FUNCTIONS FOR TRITIUM AND TRITIUM HYDRIDE THE EQUILIBRIUM OF TRITIUM AND HYDROGEN
WITH TRITIUM HYDRIDE THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE
JOURNAL OF CHEMICAL PHYSICS, VOL 16, NO 11, PP 1077-1081, 1948, 3 FIGS, 8 TABS, 15 REFS
U S AEC CONTRACT NO W-7405-ENG-36

THE HEAT CAPACITY, ENTROPY, INTERNAL ENERGY, AND FREE ENERGY ARE CALCULATED TO 2500 DEG C
FOR TRITIUM AND TRITIUM HYDRIDE THE DISTRIBUTION OF TRITIUM BETWEEN THE ORTHO AND PARA STATES
IS CONSIDERED THE EQUILIBRIUM CONSTANT FOR THE FORMATION OF TRITIUM HYDRIDE FROM HYDROGEN AND
TRITIUM IS CALCULATED FROM 50 DEG K TO 2500 DEG K THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE
INTO THE ATOMS IS DISCUSSED THE BEARING OF THE RADIOACTIVITY OF TRITIUM AND TRITIUM HYDRIDE ON
THE ATTAINMENT OF THERMODYNAMIC EQUILIBRIUM IS BRIEFLY CONSIDERED (AUTH)
THERMODYNAMICS, HEAT CAPACITY, ENTROPY, ENERGY, H-3, RADIONUCLIDES, TRITIUM HYDRIDE, RADIOACTIVITY,
DISSOCIATION

06287

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ACADEMY OF SCIENCES OF THE USSR, VERNADSKIY INSTITUTE OF GEOCHEMISTRY AND ANALYTICAL CHEMISTRY,
MOSCOW, USSR

THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS
GEOCHEMISTRY INTERNATIONAL, VOL 5, NO 5, PP 952-966, 1968, 4 FIGS, 5 TABS, 50 REFS
TRITIUM ANALYSES WERE MADE BY GAS-PROPORTIONAL COUNTING EITHER OF C(2)H(2) OR C(6)H(6) ON
A NUMBER OF WATER AND PLANT SAMPLES COLLECTED IN WESTERN USSR THE TRITIUM CONTENT OF ATMOSPHERIC
PRECIPITATION AND WATER VAPOR NEAR MOSCOW RANGED FROM 400 TO 800 T U IN 1966 AND FROM 40 TO 300
T U IN 1967 LAKES IN THE CENTRAL AND NW USSR RANGED FROM 170 TO 370 T U IN 1967, WHILE THE
PAKHVA AND OKA RIVERS NEAR MOSCOW IN SEPT 1967 HAD 65 AND 34 T U
H-3, RADIONUCLIDES, WATER, PLANTS, SOVIET UNION, WATER VAPOR, GASES, PRECIPITATION (METEOROLOGICAL),
LAKES, RIVERS, GROUND WATER

06288

J D DODD
TEXAS AGRICULTURAL EXPERIMENT STATION, COLLEGE STATION, TEX
THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX PROGRESS
REPORT

U S AEC REPORT, ORO-3488-8 54 P, 1968, 18 FIGS, 6 TABS, 27 REFS
U S AEC CONTRACT NO AT(40-1)-3488

CONTAINS A SECTION ENTITLED- USE OF HTO TO DETERMINE WATER RELATIONSHIPS IN PRICKLYPEAR CACTUS
(OPUNTIA SPP) PP 41-52 EXTRACTIONS OF TISSUE BOUND TRITIUM AND COLLECTION OF TRANSPIRED VAPOR
INDICATE THAT MOVEMENT OF HTO IS DEPENDENT IN PART ON TIME, PHENOLOGY OF THE PLANT, AND DIURNAL

CONDITIONS. WITH EXCEPTION OF 21 DAYS NO MOISTURE AND NO ACTIVITY WAS ENCOUNTERED WITH VAPOR SAMPLING DURING DAYLIGHT HOURS. TISSUE EXTRACTIONS SHOWED RELATIVELY HIGH CONCENTRATIONS OF ACTIVITY IN DEVELOPING PADS. CENTER STRINGERS SHOWED A TENDENCY TO IMPORT LABELED WATER EARLIER THAN DID THE LATERAL STRINGERS. (AUTH.)

H-3, RADIONUCLIDES, OPUNTIA, CACTACEAE, FLOWERING PLANTS, PLANTS, PHENOLOGY, DIURNAL VARIATIONS, PERIODIC VARIATIONS, CS-134, TISSUES, MOVEMENT, WATER, ANDROPOGON, GRAMINAE, TRACERS, TRITIATED WATER

06289

THOMAS R. CRITES

SANDIA LABORATORIES, ALBUQUERQUE, N. MEX.

ESTIMATION OF BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES.

ALBUQUERQUE, N. MEX., SANDIA LABORATORIES, SC-TM-67-405. 35 P., 1967, 13 FIGS., 28 REFS.

GRAPHS ARE PRESENTED RELATING URINARY EXCRETION LEVELS TO BODY DEPOSITION AS A FUNCTION OF TIME FOR A NUMBER OF MEDICALLY AND INDUSTRIALLY IMPORTANT RADIONUCLIDES. (AUTH.)

URINE, BODY BURDEN, RADIONUCLIDES, H-3, S-35, CO-60, SR-90, I-131, CS-137, PO-210, RA-226, TH-227, URANIUM, PLUTONIUM, AMERICIUM, METALS, TECHNETIUM, EXCRETION, MAN

06290

O. BIDDULPH AND R. CORY

STATE COLLEGE OF WASHINGTON, DEPT. OF BOTANY, PULLMAN, WASH.

AN ANALYSIS OF TRANSLLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14.

PLANT PHYSIOLOGY, VOL. 32, PP 608-619, 1957, 6 FIGS., 24 REFS.

U.S. AEC CONTRACT NO. AT(45-1)-213.

HTO, LABELED PHOSPHATE, AND CARBON DIOXIDE WERE APPLIED SIMULTANEOUSLY TO THE SURFACE OF A BEAN LEAF AND ASSAYED INDIVIDUALLY IN SECTIONS OF THE LOWER STEM AFTER 15, 20, AND 30 MIN. THE AMOUNT MOVING PER UNIT APPLIED WAS GREATEST FOR C-14, AND LEAST FOR HTO. THE C-14 MOVED LARGELY AS SUCROSE; THE P-32 AS PHOSPHATE OR FRUCTOSE, 1-6, DIPHOSPHATE, NOT CONTAINING THE C-14 LABEL.

THE VELOCITIES FOR P-32 AND HTO WAS 87 CM/HR AND FOR C-14, 107 CM/HR INCLUDING TIME FOR MOVEMENT TO THE PHLOEM. THE ESTIMATED TOTAL DOWNWARD EXPORT PER PLANT PER DAY FOR C-14-SUCROSE, HTO, AND P-32 WAS 1.0 MG, 0.24 MICRO L, AND 1.0 MICRO GM, RESPECTIVELY. THE RATIO OF C-14 SUCROSE TO HTO WAS APPROX 12 MOLAL BUT AN UNDETERMINED AMOUNT OF UNLABELED TISSUE LINEAR RELATIONSHIP BETWEEN THE LOGARITHM OF P-32 AND C-14 CONCENTRATION AND THE DISTANCE FROM THE POINT OF ENTRY INTO THE STEM. HTO DEPARTED FROM THIS PATTERN, WHICH IS EVIDENCE THAT SOME FEATURES WITHIN THE SIEVE TUBES MAY RESTRICT THE FREEDOM OF SOLUTE MOLECULES TO ACCOMPANY THE SOLVENT. A LOSS FROM THE SIEVE TUBES TO THE XYLEM AMOUNTING TO APPROX 24% FOR P-32 AND C-14 AND 31% FOR HTO INDICATED A MARKED PERMEABILITY OF THE LATERAL SIEVE TUBE MEMBRANES. THE LOGARITHMIC RELATIONSHIP BETWEEN TRACER CONCENTRATION AND DISTANCE WAS EXPLAINED ON THE BASIS OF LOSS OF TRACER FROM THE SIEVE TUBES. (AUTHS.)

H-3, RADIONUCLIDES, P-32, C-14, BEANS, CROPS, LEGUMES, PLANTS, TRACERS, VEGETABLES, TRANSLLOCATION, PHLOEM, TRITIATED WATER

06292

ATOMIC ENERGY OF CANADA LTD.

PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, APRIL 1 TO JUNE 30, 1969.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, AECL-3430.

48 P., 1969, FIGS., TABS.,

TRITIUM CONCENTRATIONS OCCURRING IN SEVERAL RIVERS AND MONTHLY COMPOSITE PRECIPITATION SAMPLES DURING 1968 ARE SHOWN. UNUSUALLY HIGH CONCENTRATIONS OCCURRED IN DEC PRECIPITATION AT EDMONTON (3500 T.U.) AND REGINA (2100 T.U.) PRESUMABLY AS A RESULT OF THE PASSAGE OF A DISCRETE CLOUD FROM THE CHINESE THERMONUCLEAR TEST CARRIED OUT LATE IN THAT MONTH. AN INSTRUMENT FOR SUBTRACTING THE A-41 CONTRIBUTION TO THE OUTPUT FROM THE TRITIUM MONITOR ABP-10101 HAS BEEN BUILT AND TESTED. ANALYSIS OF THE EXPERIMENTAL DATA FROM THE DESORPTION OF TRITIATED WATER VAPOR FROM SKIN IS CONTINUING. TRITIATED WATER VAPOR MAY BE COLLECTED SIMPLY BY BUBBLING THE VAPOR THROUGH A WATER-FILLED GAS WASHING BOTTLE.

H-3, RADIONUCLIDES, PRECIPITATION (METEOROLOGICAL), RIVERS, GASES, INSTRUMENTS, EQUIPMENT, ABSORPTION, WATER VAPOR, CANADA, TRITIATED WATER

06293

ATOMIC ENERGY OF CANADA LTD.

PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, AECL-3374.

41 P., 1969, FIGS., TABS., REFS.

DETECTORS FOR TRITIUM IN AIR, WATER, AND URINE ARE DESCRIBED. THE CONCENTRATION OF TRITIUM IN SEVERAL RIVERS DURING 1968 IS ALSO SHOWN. DISCHARGE OF TRITIUM FROM THE WHOLE DRAINAGE AREA, WHICH COMPRISES ABOUT 43% OF THE LAND AREA OF CANADA, AMOUNTED TO 3.0×10^{12} ATOMS COMPARED TO 3.9×10^{12} ATOMS IN 1967. THE OVERALL RATIO OF DISCHARGE TO DEPOSIT WAS 0.77 (0.57 IN 1967, 0.47 IN 1968). PRELIMINARY MEASUREMENTS ON AIR IN THE DEEP RIVER LABORATORY INDICATE A CONCENTRATION OF 2×10^6 T.U., ABOUT THE SAME AS REPORTED FOR 1963 AND 1966 BY EUROPEAN AND AMERICAN WORKERS.

THE CONCENTRATION OF TRITIUM IN ATMOSPHERIC HYDROGEN INCREASED EXPONENTIALLY FROM 1948 TO 1963 BUT IT IS STILL NOT CLEARLY ESTABLISHED WHETHER THIS RISE WAS OF INDUSTRIAL OR BOMB-TESTING ORIGIN. H-3, RADIONUCLIDES, GREENLAND, CANADA, ALASKA, RIVERS, INSTRUMENTS, PRECIPITATION (METEOROLOGICAL), ATMOSPHERE (TERRESTRIAL), EQUIPMENT, WATER, URINE, MAN

06294

EDWARD H. FLEMING

LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-71659. 28 P., 1969, 2 FIGS., 6 TABS., 11 REFS. (ALSO IN U. S. AEC REPORT SERHL-82, PP 185-208.)

VALUES OF K (THE FRACTION OF A NUCLIDE IN THE ENVIRONMENT WHICH MUST BE INGESTED DAILY OVER A GIVEN TIME PERIOD TO RECEIVE A MAXIMUM ALLOWABLE DOSE) WERE COMPUTED FOR RADIONUCLIDES PRODUCED IN A SINGLE CRATERING DETONATION. THE NEW CONCEPT OF MASS EXTRACTION RATE (MER) IS PRESENTED AND VALUES ARE TABULATED. THE FOLLOWING EXAMPLE IS GIVEN FOR TRITIUM. ASSUMING AN OFTEN QUOTED VALUE FOR TRITIUM PRODUCTION OF 6.7×10^{13} Curies/KT OF FUSION, THE MPC(W) FOR THE GENERAL POPULATION IS 10 (MINUS 3) MICROCURIES/CC. THEREFORE, 1.1×10^{16} CC OF WATER (A BODY OF WATER 80-FT DEEP AND 7.9 MILES IN RADIUS) IS REQUIRED TO DILUTE ALL OF THE TRITIUM TO MPC(W). IT IS ASSUMED THAT ALL THE TRITIUM PRODUCED IS IMMEDIATELY PRESENT AND AVAILABLE IN THE AQUATIC SYSTEM AND THAT THIS BODY OF WATER IS NEVER MIXED WITH OTHER WATER. TRITIUM DECAYS WITH A 12.26-YR HALF-LIFE, SO THAT TO RECEIVE 0.17 30-5.1 REM IN 30 YRS WOULD REQUIRE A BODY OF WATER 80-FT DEEP WITH A 4.1-MILE RADIUS, AND IT IS ASSUMED THAT MAN IS IN EQUILIBRIUM WITH THIS BODY OF WATER ONLY. IN A HARBOR OR CANAL APPLICATION, FOR EXAMPLE, A SMALL FRACTION OF THE TOTAL TRITIUM WOULD APPEAR IN THE OCEAN, HARBOR, OR CANAL WATER SHORTLY AFTER A DETONATION; THEREFORE SMALLER VOLUMES OF WATER WOULD BE REQUIRED FOR DILUTION. FURTHERMORE, TURBULENT MIXING IN THE OCEAN, TIDAL CHANGES IN THE HARBOR, AND CURRENTS IN THE CANAL WOULD FURTHER REDUCE THE TRITIUM CONCENTRATIONS.

FALLOUT, RADIONUCLIDES, NUCLEAR CRATER, MASS EXTRACTION RATE, H-3, +VIO180, MAN, DOSE ESTIMATION, SEDAN, PB-210, K-40, W-185, W-181, P-32, PLOWSHARE PROGRAM, TRITIATED WATER

06295

JULIAN M. NIELSON

RECOMMENDED PROCEDURES FOR TRITIUM.

IN- CHEMICAL METHODS FOR ROUTINE BIOASSAY. J.B. HURSH, ED. ROCHESTER, N.Y., ROCHESTER UNIVERSITY,

AECU-4024. PP 38-58, 1958, 1 FIG., 5 REFS.

THE DETERMINATION OF TRITIUM IN URINE SAMPLES IS MAINLY A PROBLEM OF WEAK BETA ACTIVITY MEASUREMENT, SINCE ONLY VERY SIMPLE PROCEDURES ARE REQUIRED TO OBTAIN THE TRITIUM IN A FORM SUITABLE FOR THE

RADIOACTIVITY MEASUREMENT 7 PROCEDURES FOR TRITIUM BIOASSAY WERE SUBMITTED WHICH COULD BE DIVIDED INTO 3 GROUPS ON THE BASIS OF THE 3 TYPES OF MEASURING INSTRUMENTS (VIBRATING REED ELECTROMETER, INTERNAL G M COUNTER, AND LIQUID SCINTILLATION COUNTER) USED. COMPARISON OF THE PROCEDURES SHOWS THAT RESULTS OBTAINED ARE QUITE SIMILARLY SUITABLE AND SATISFACTORY FOR BIOASSAY WORK, WITH THE CHOICE OF INSTRUMENT MAINLY DEPENDENT ON THE REQUIREMENTS AND CONDITIONS OF THE PARTICULAR LABORATORY. SOME OF THESE FACTORS ARE CONSIDERED:
H-3, RADIONUCLIDES, BIOASSAY, URINE, INSTRUMENTS, EQUIPMENT, MAN

06296

H SAUL WINCHELL, SERENE L VIMOKESANT AND ROSANNE B RALEY
LAWRENCE RADIATION LABORATORY, BERKELEY, CALIF

RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA IN- SEMIANNUAL REPORT - BIOLOGY AND MEDICINE J H LAWRENCE, ED BERKELEY, CALIF, LAWRENCE RADIATION LABORATORY, UCRL-18347 PP 149-154, 1968, 2 FIGS, 1 TAB, 6 REFS
U S AEC CONTRACT NO. W-7405-ENG-48

THE SYNTHESIS OF DNA THYMINE AND ADENINE UTILIZING MONOCARBON UNITS FROM C-14-LABELED FORMATE OR NO 3-C-14-LABELED SERINE IS FOUND TO BE MORE RADIOSENSITIVE THAN THE INCORPORATION OF TRITIATED THYMIDINE INTO DNA THYMINE SINCE THE DE NOVO SYNTHESIS OF BOTH THE PYRIMIDINE THYMINE AND THE PURINE ADENINE WAS MARKEDLY SUPPRESSED FOLLOWING RADIATION, IT IS ASSUMED THAT THE COMMON METABOLIC PATHWAY REQUIRING MONOCARBON TRANSPORT NEEDED IN THE SYNTHESIS OF BOTH THESE BASES MAY BE MARKEDLY RADIOSENSITIVE. FURTHERMORE, IT IS POSTULATED THAT THIS STEP IS MORE RADIOSENSITIVE THAN METABOLIC STEPS REQUIRED FOR THE INCORPORATION OF DNA BASES INTO THE DNA MOLECULE. RESULTS SUGGEST THAT FOLLOWING RADIATION THE INCORPORATION OF TRITIATED THYMIDINE INTO DNA IS NOT A GOOD MEASURE OF OVERALL DNA SYNTHESIS, BUT MAY RATHER BE A MEASURE OF THE INCORPORATION OF PREFORMED THYMIDINE, FROM REUTILIZATION PATHWAYS, INTO DNA (AUTHS).
RADIATION EFFECTS, CHEMICAL SYNTHESIS, ADENINE, THYMINE, DNA, H-3, RADIONUCLIDES, C-14, RADIOSENSITIVITY, DOGS, ANIMALS, MAMMALS, CELLS, TRITIATED COMPOUNDS

06327

ERNEST A PINSON

LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N MEX

INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE

LOS ALAMOS, N MEX, UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LA-1467 17 P, 1952, 2 FIGS, 5 TABS, 5 REFS

TWO GROUPS OF MICE WERE GIVEN CHRONIC AND ACUTE EXPOSURES OF HTO IN BODY FLUIDS. BOTH GROUPS ELIMINATED THE TRITIUM FROM BODY FLUIDS WITH AN INITIAL HALF-TIME OF 1.6 TO 2.0 DAYS. AFTER MOST OF THE TRITIUM HAS BEEN ELIMINATED, THE HALF-TIME FOR ELIMINATION INCREASED TO ABOUT 12 DAYS AS THE RATE OF GROWTH OF TRITIUM OUT OF THE ORGANIC CONSTITUENTS OF THE BODY BECAME THE LIMITING FACTOR IN THE ELIMINATION RATE. MICE KILLED WHEN THE HALF-TIME FOR ELIMINATION HAD LENGTHENED TO 12 DAYS SHOWED A SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF TISSUES WHICH WAS MANY TIMES THE SPECIFIC ACTIVITY OF TRITIUM IN BODY WATER. THE RADIATION DOSE TO THE MICE FROM THE TRITIUM INCORPORATED IN THE CONSTITUENTS WAS SMALL IN COMPARISON WITH THE RADIATION DOSE FROM TRITIUM IN BODY WATER AT LEVELS NECESSARY TO INDUCE THE ACTIVITY INTO THE ORGANIC COMPONENTS EITHER ON CHRONIC OR ACUTE EXPOSURE. IT WAS CONCLUDED THAT THE OVERALL RADIATION HAZARD DUE TO INCORPORATION OF TRITIUM INTO THE ORGANIC CONSTITUENTS OF MICE IS MINOR COMPARED TO THE RADIATION HAZARD FROM TRITIUM IN BODY WATER. THE SAME IS PROBABLY TRUE FOR MAN (AUTH).
MICE, ANIMALS, MAMMALS, RODENTS, H-3, RADIONUCLIDES, TRITIATED WATER, BODY WATER, BODY FLUIDS, BIOLOGICAL HALF-LIFE, HALF-LIFE, ELIMINATION, SPECIFIC ACTIVITIES, RADIATION EXPOSURE, TISSUES

06328

ERNEST A PINSON

LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N MEX

THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN

LOS ALAMOS, N MEX, UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LA-1464 10 P, 1952, 2 FIGS, 1 TAB, 4 REFS

TRITIUM ACTIVITY IN VENOUS BLOOD OF HUMANS INCREASED LINEARLY WITH TIME AFTER THE INGESTION OF HTO. THIS INCREASE IN ACTIVITY BEGAN 2 TO 9 MIN FOLLOWING INGESTION AND REACHED A MAXIMUM IN ABOUT 40 TO 45 MIN. THESE STUDIES SUGGESTED THAT WATER ABSORPTION FROM THE GASTROINTESTINAL TRACT BEGAN 2 TO 9 MIN AFTER INGESTION. THEY ALSO SUGGESTED THAT THE VOLUME OF WATER TRANSFERRED FROM THE GASTROINTESTINAL TRACT TO THE BLOOD, BY ABSORPTION OR EXCHANGE WAS LINEAR WITH TIME AFTER INGESTION AND WAS PROPORTIONAL TO THE VOLUME OF WATER INGESTED WITHIN THE RANGE OF 100 TO 1000 ML. THE TIME REQUIRED FOR THE COMPLETE ABSORPTION OF 100 TO 1000 ML OF WATER FROM THE GUT WAS 40 TO 45 MIN.

AFTER REACHING A MAXIMUM IN ABOUT 45 MIN THE ACTIVITY IN VENOUS BLOOD USUALLY DECLINED SLOWLY UNTIL EQUILIBRIUM WAS REACHED AT ABOUT 2-1/2 HRS. THE BODY DILUTION VOLUME RANGED FROM 57.6 TO 67.3% OF THE BODY WEIGHT.
GASTROINTESTINAL TRACT, H-3, RADIONUCLIDES, WATER, MAN, URINE, INGESTION, ABSORPTION, BLOOD, TRANSFER, TRITIATED WATER

06329

R M PRY

UNITED KINGDOM ATOMIC ENERGY AUTHORITY

A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM

HARWELL, ENGLAND, UNITED KINGDOM ATOMIC ENERGY AUTHORITY, RESEARCH GROUP, AERE-HP/M-137 11 P, 1958, 2 TABS, 4 REFS

THE VARIOUS PHYSICAL AND BIOLOGICAL PARAMETERS NECESSARY TO CALCULATE THE MAXIMUM PERMISSIBLE LEVELS FOR TRITIUM ARE REVIEWED. THE VALUES ASSUMED IN 1955 ARE COMPARED WITH THOSE RECOMMENDED, WHICH ARE CALCULATED WITH TOTAL BODY AS THE CRITICAL ORGAN.
H-3, RADIONUCLIDES, MAXIMUM PERMISSIBLE CONCENTRATION, BODY BURDEN, BIOLOGICAL HALF-LIFE, HALF-LIFE, WHOLE BODY EXPOSURE, RADIATION EXPOSURE, URINE, ORGANS, SKIN, MAN

06330

D G JACOBS AND M J KELLY

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN

HEALTH PHYSICS DIVISION, 4TH QUARTERLY PROGRESS REPORT ON THE THEORETICAL EVALUATION OF CONSUMER PRODUCTS FROM PROJECT GASBUGGY

OAK RIDGE, TENN, OAK RIDGE NATIONAL LABORATORY, ORNL-TM-2721 10 P, 1969, 4 TABS, 8 REFS

U S AEC CONTRACT NO. W-7405-ENG-26

LIQUIDS FROM THE GASBUGGY WELL WERE ASSAYED FOR TRITIUM. THE PRODUCTION OF TRITIUM IN THE FORM OF DRIP LIQUIDS AT THE WELLHEAD WOULD REPRESENT SOMEWHAT LESS THAN 3% OF THE TOTAL DAILY TRITIUM PRODUCTION DURING PROCESSING OF GAS. THERE ARE RELEASES THAT OCCUR DUE TO IN-PLANT UTILIZATION. THE IMPACT OF THESE RELEASES FOR THE HYPOTHETICAL PROCESSING OF 1 M(2) CU FT/DAY AT THE BLANCO PLANT WERE ASSESSED (AUTH).

H-3, RADIONUCLIDES, GASBUGGY, LIQUID HYDROCARBONS, NATURAL GAS, WATER, GASES, FLOWSHARE PROGRAM, KR-65

06331

P W ASCHBACHER, T H KAMAL, AND R G CRAGLE

UNIVERSITY OF TENNESSEE, AGRICULTURAL RESEARCH LABORATORY, OAK RIDGE, TENN

TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER

JOURNAL OF ANIMAL SCIENCE, VOL 24, PP 430-433, 1965, 2 FIGS, 5 REFS

TOTAL BODY WATER DETERMINATIONS WERE MADE ON 6 DAIRY COWS USING HTO. BLOOD PLASMA, URINE, AND MILK WERE USED FOR THESE DETERMINATIONS, AND BLOOD PLASMA APPEARS TO BE THE MOST SATISFACTORY. BODY WATER ESTIMATES OF 69.8 AND 71.9% WERE OBTAINED FOR 2 LACTATING COWS, 69.0 AND 67.6% FOR 2 NONLACTATING COWS AND 56.3 AND 56.2% FOR 2 FAT NONLACTATING COWS. EQUILIBRIUM OF INTRAVENOUSLY

DOSED HTO WAS REACHED BETWEEN BLOOD PLASMA AND RUMEN JUICE IN 3 TO 4 HRS. (AUTHS.)
BODY WATER, BODY FLUIDS, COWS, ANIMALS, MAMMALS, DOMESTIC ANIMALS, LIVESTOCK, HTO, BLOOD, URINE,
MILK, DAIRY PRODUCTS, FOODS, TRITIATED WATER, RADIONUCLIDES

06333

F. J. PARSONS

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER, ONTARIO

THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-1739. 16 P., 1963, 5 FIGS., 2 TABS.,

4 REFS.

A GROUND-WATER SURVEY SHOWED THAT HTO MIGRATED FROM THE LIQUID DISPOSAL AREA AND SPREAD BENEATH 70 ACRES OF ADJOINING LAND. AN ESTIMATED 8,250 CURIES BENEATH SOUTH SWAMP AND PERCH LAKE SWAMP ARE ADVANCING TOWARDS PERCH LAKE. A WEAK FRONT HAS ALREADY REACHED THE LAKE BUT THE CONCENTRATIONS ARE EXPECTED TO RISE TO 10 TIMES THE PRESENT VALUE IN 2 YEARS. A FURTHER INCREASE IS ANTICIPATED IN 4 YEARS TIME.

H-3, RADIONUCLIDES, MOVEMENT, AQUIPERS, CANADA, PERCH LAKE, RADIOACTIVE WASTES, WASTES, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, LAKES, GROUND WATER, TRITIATED WATER

06334

A. E. BAINBRIDGE

UNIVERSITY OF CALIFORNIA AT SAN DIEGO, LA JOLLA, CALIF.

TRITIUM IN THE NORTH PACIFIC SURFACE WATER.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68, NO. 13, PP 3785-3789, 1963, 3 FIGS., 1 TAB., 10 REFS.

REGULAR MEASUREMENTS OF TRITIUM IN THE SURFACE WATER OF THE NORTH PACIFIC DURING THE PERIOD 1960-1961 INDICATE THAT THE RESIDENCE TIME IN THIS LAYER, ON THE BASIS OF A SIMPLE BOX MODEL, IS LESS THAN 3.5 YRS. IF THE AVERAGE DEPTH OF THIS LAYER IS ASSUMED TO BE 75 M, PRECIPITATION CONTRIBUTES 1/2 OF THE INPUT TO THE SYSTEM. ALTERNATIVELY, IF PRECIPITATION IS THE ONLY SOURCE, THE EFFECTIVE DEPTH TO WHICH THIS TRITIUM IS BEING MIXED IS ABOUT 40 M. THE TOTAL AMOUNT OF TRITIUM DEPOSITED IN THE NORTHERN HEMISPHERE IS ESTIMATED TO ABOUT 40 K. (AUTH.)
PRECIPITATION (METEOROLOGICAL), NORTH PACIFIC OCEAN, H-3, OCEANS, RADIONUCLIDES, PACIFIC OCEAN, SURFACE WATERS, RESIDENCE TIME, DEPTH, SPECIFIC ACTIVITIES

06336

W. E. HALE

U.S. GEOLOGICAL SURVEY, DENVER, COLO.

HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA - AN ADDENDUM.

U.S. GEOLOGICAL SURVEY TECHNICAL LETTER, LONG SHOT-1A. 6 P., 1965, 4 REFS.

NO CONTAMINATION OF SURFACE WATERS WILL RESULT FROM THE LONG SHOT EVENT. FISSION PRODUCTS OF CONCERN IN GROUND-WATER CONTAMINATION PROBABLY WILL BE CONFINED TO THE RUBBLE IN THE CHIMNEY AND ADJACENT CRUSHED ZONE. TRITIUM IN ESTIMATED CONCENTRATIONS RANGING BETWEEN 10 (MINUS 7) AND 10 (MINUS 6) CURIES PER CC MAY BE EXPECTED IN THE FRESH GROUND-WATER SYSTEM AT DEPTH ALONG A PATH ABOUT 1,000 FEET WIDE EXTENDING FROM THE SHOT POINT TO THE SEA. TRITIATED WATER WILL BEGIN TO EMERGE ON THE OCEAN FLOOR AT THE RATE OF 200 FEET (3) PER DAY IN ABOUT 40 YEARS. THE MAXIMUM CONCENTRATION OF TRITIUM SHOULD OCCUR WITHIN A FEW YEARS PERIOD AND THEREAFTER DIMINISH AT A ONE-HALF RATE. THE AREA OF EMERGENCE IS ESTIMATED TO BE ABOUT 1,000 FEET LONG (PARALLEL TO SHORE) AND WITHIN 2,000 FEET OF THE SHORE. DILUTION OF THIS TRITIATED WATER IN SEA WATER TO CONCENTRATIONS OF AT LEAST 10 (MINUS 9) CURIES PER CC ARE CONFIDENTLY PREDICTED. FURTHER DILUTION TO 10 TRITIUM UNITS PER LITER WITHIN 3 MILES OF THE COAST IS REASONABLE PREDICTION.
HYDROLOGY, AMCHITKA ISLAND, ALASKA, ALUTIAN ISLANDS, LONG SHOT, H-3, RADIONUCLIDES, CONTAMINATION, SURFACE WATERS, GROUND WATER, WATER, MOVEMENT

06337

DONALD P. PETERSEN

LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.

THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION.

LOS ALAMOS, N. MEX, UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, TID-13613. 18

P., 1961, 3 FIGS., 1 TAB., 11 REFS

U.S. AEC CONTRACT NO. W-7405-ENG-36.

HELA CELLS ADAPTED TO GROW IN AGITATED FLUID MEDIUM WERE MAINTAINED UNDER SUITABLE CULTURE CONDITIONS UNTIL THE CELLS MULTIPLIED LARGELY AS MONODISPERSE POPULATIONS. AN ELECTRONIC PARTICLE COUNTER, EQUIPPED WITH A 100-CHANNEL PULSE HEIGHT ANALYZER, WAS USED TO ENUMERATE AND DETERMINE THE SIZE OF INTACT CELLS AND NUCLEI DERIVED FROM THE CULTURES. RADIOACTIVITY WAS INTRODUCED INTO THE CULTURES DURING LOGARITHMIC GROWTH EITHER AS TRITIATED THYMIDINE OR AS TRITIUM WATER. THE BIOLOGICAL EFFECTS OF INTERNAL BETA IRRADIATION WERE EVALUATED IN TERMS OF THE DECREMENT IN GROWTH OBSERVED IN SUCCEEDING GENERATIONS AS A FUNCTION OF GROWTH RATE. THE DATA DEMONSTRATE THAT TRITIATED THYMIDINE IS MORE EFFECTIVE IN INHIBITING CELL GROWTH THAN IS TRITIUM WATER. POSSIBLE REACTION MECHANISMS INVOLVED ARE DISCUSSED.

BETA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, H-3, ANIMALS, RADIONUCLIDES, CELL GROWTH, BIOLOGICAL EFFECTIVENESS (BE), MAMMALS, TRITIATED THYMIDINE, TRITIATED WATER, TRITIATED COMPOUNDS, RADIATION EFFECTS

06338

R. M. BROWN

DEPENCE RESEARCH CHEMICAL LABORATORIES, OTTAWA, ONTARIO, CANADA

HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY.

GEOCHIMICA ET COSMOCHIMICA ACTA, VOL. 21, PP 199-216, 1961, 5 FIGS., 5 TABS., 15 REFS.

TRITIUM DEPOSITION IN RAINWATER AT OTTAWA, CANADA, IS REPORTED FOR THE YEARS 1953-1959. CORRELATION WITH THE TRITIUM CONTENT OF DRAINAGE WATER IN THE DISTRICT HAS ALLOWED STUDY OF THE HYDRODYNAMICS OF THE WATER SYSTEM. A TURNOVER RATE CONSTANT OF 0.27 YEAR (MINUS 1) HAS BEEN FOUND FOR A STORAGE RESERVOIR OF 0.1 M. THE FRACTION OF FRESH PRECIPITATION IN RE-EVAPORATED WATER HAS BEEN ESTIMATED AS 0.55. A DEPOSITION RATE OF COSMIC TRITIUM OF 1.3 ATOMS/CM (2) SEC HAS BEEN OBTAINED FROM EARLY DATA.

H-3, RADIONUCLIDES, HYDROLOGY, CANADA, DEPOSITION, RAINFALL, WATER, PRECIPITATION (METEOROLOGICAL), GROUND WATER, HYDROLOGIC MODEL, MODELS, OTTAWA RIVER, RIVERS, EVAPORATION, FRACTIONATION, STORAGE, RETENTION

06339

G. N. SMITH, L. A. TEMPLE, R. J. EMERSON, AND T. W. GALBRAITH

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

THE METABOLISM OF TRITIUM GAS IN THE RAT.

IN- BIOLOGY RESEARCH - ANNUAL REPORT 1952. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION,

HW-28636. PP 43-51, 1953, 3 FIGS., 1 TAB., 6 REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

DURING INHALATION OF TRITIUM GAS, THE INCREASE IN TRITIUM CONTENT OF THE BLOOD INCREASED RAPIDLY AFTER A SHORT LAG PHASE OF THREE OR FOUR MINUTES. AFTER FIVE TO SIX MINUTES OF RAPID INCREASE A SLOWER RATE OF INCREASE WAS MAINTAINED FOR THE DURATION OF THE EXPOSURE (30 MIN). WITH CESSATION OF THE EXPOSURE, TRITIUM WAS LOST RAPIDLY FROM THE BLOOD. THE SMALL QUANTITY REMAINING AFTER 10 TO 20 MINUTES APPEARS TO BE TRITIUM OXIDE AND ORGANICALLY-BOUND TRITIUM. TOTAL RETENTION OF TRITIUM AN HOUR FOLLOWING A ONE-HOUR TOTAL BODY EXPOSURE AMOUNTED TO 0.019 MICRO C/G TISSUE/HR EXPOSE/MICRO C TRITIUM/CC OF EXPOSING ATMOSPHERE. FOR ANESTHETIZED ANIMALS THIS FIGURE WAS REDUCED TO 0.0048.

LUNG EXPOSURE OF ANESTHETIZED ANIMALS RESULTED IN A FIGURE OF 0.0049, COMPARED WITH 7.5 X 10 (MINUS 5) FOR SKIN EXPOSURES. THE TOTAL QUANTITY OF TRITIUM RETAINED IN THE DIFFERENT TISSUES VARIED WITH THE PERCENTAGE OF WATER PRESENT IN THE TISSUES, THE NATURE OF THE TISSUES, AND THE LENGTH OF TIME ELAPSING SINCE THE EXPOSURE. (AUTHS.)

RODENTS, INHALATION, RETENTION, WHOLE BODY EXPOSURE, TISSUES, ORGANS, RADIATION EXPOSURE, TRITIUM GAS

06340

C. W. DELONG, R. C. THOMPSON, AND H. A. KORNBERG
HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE.
IN- BIOLOGY RESEARCH - ANNUAL REPORT 1952. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION,
HW-28636. PP 52-58, 1953, 2 TABS., 5 REFS.
U.S. ABC CONTRACT NO. W-31-109-ENG-52.

THE RATE OF WATER VAPOR ABSORPTION IN THE RAT WAS FOUND TO BE DIRECTLY PROPORTIONAL TO WATER VAPOR PRESSURE. FOR A CONSTANT LEVEL OF ATMOSPHERIC TRITIUM OXIDE, ABSORPTION OF TRITIUM OXIDE WAS INDEPENDENT OF TOTAL WATER VAPOR PRESSURE. A SINGLE TOTAL BODY EXPOSURE OF A HUMAN AT 70 PER CENT RELATIVE HUMIDITY RESULTED IN AN ABSORPTION RATE OF 18 MICRO G/CM(2)/MIN. BASED ON THIS RESULT, THE RATE OF PERCUTANEOUS ABSORPTION OF TRITIUM FROM A TRITIUM OXIDE CONTAMINATED ATMOSPHERE IS COMPARABLE TO THE RATE OF PULMONARY ABSORPTION FROM THE SAME ATMOSPHERE. THE RATE OF PASSAGE OF TRITIUM GAS THROUGH EXCISED HUMAN SKIN WAS ABOUT ONE-THIRD AS GREAT AS THE RATE THROUGH EXCISED RAT SKIN. (AUTHS.)

ABSORPTION, SKIN, H-3, RADIONUCLIDES, TRITIUM OXIDE, OXIDES, GASES, WATER VAPOR, WATER, RATS, ANIMALS, MAMMALS, RODENTS, MAN, PRESSURE, WHOLE BODY EXPOSURE, RADIATION EXPOSURE, VAPOR PRESSURE, HUMIDITY

06341

R. C. THOMPSON AND J. E. BALLOU
HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP.
IN- BIOLOGY RESEARCH - ANNUAL REPORT 1952. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION,
HW-28636. PP 59-66, 1953, 1 FIG., 3 TABS., 5 REFS.
U.S. ABC CONTRACT NO. W-31-109-ENG-52.

GROUPS OF RATS WERE SACRIFICED APPROXIMATELY 4 MONTHS AND 8 MONTHS AFTER ADMINISTRATION OF TRITIUM OXIDE, AND THE RETENTION OF TRITIUM IN VARIOUS PROTEIN AND LIPID FRACTIONS DETERMINED. THE APPARENT BIOLOGICAL HALF-LIVES OF THE TRITIUM-LABELLED FRACTIONS WERE FOUND TO BE OF THE ORDER OF MONTHS OR YEARS AND TO VARY FOR A GIVEN TYPE OF COMPOUND, DEPENDING ON ITS LOCATION IN THE BODY. DATA OBTAINED FROM A SINGLE SHEEP INDICATE BIOLOGICAL HALF-LIVES OF 5.2, 20 AND 27 DAYS FOR BODY WATER, SERUM GLOBULIN, AND SERUM ALBUMIN, RESPECTIVELY. THE AVERAGE LIFE OF THE SHEEP RED CELL WAS ESTIMATED AS 140 DAYS. THE FRACTION OF TRITIUM (INJECTED AS OXIDE) WHICH WAS RETAINED BY THE SHEEP AFTER 235 DAYS, WAS SEVERAL TIMES GREATER FOR MOST TISSUES, THAN THAT RETAINED BY THE RAT OVER A SIMILAR PERIOD. (AUTHS.)

BODY FLUIDS, BODY WATER, LIPIDS, ORGANIC COMPOUNDS, NITROGEN COMPOUNDS, PROTEINS, ORGANS, TISSUES, HALF-LIFE, BIOLOGICAL HALF-LIFE, OXIDES, TRITIUM OXIDE, LIVESTOCK, DOMESTIC ANIMALS, SHEEP, RODENTS, MAMMALS, ANIMALS, RATS, RETENTION, RADIONUCLIDES, H-3

06342

R. C. THOMPSON AND J. E. BALLOU
HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT.
IN- BIOLOGY RESEARCH - ANNUAL REPORT 1952. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION,
HW-28636. PP 67-71, 1953, 2 TABS., 8 REFS.
U.S. ABC CONTRACT NO. W-31-109-ENG-52.

WATER CONTAINING DEUTERIUM OXIDE AND TRITIUM OXIDE IN A KNOWN RATIO WAS ADMINISTERED TO RATS. THE RESULTING RATIO OF TRITIUM TO DEUTERIUM IN VARIOUS TISSUE FRACTIONS WAS DETERMINED AND COMPARED WITH THE RATIO IN THE ADMINISTERED WATER. ISOTOPE EFFECTS OBSERVED WERE OF DOUBTFUL SIGNIFICANCE AND IN NO CASE GREATER THAN ABOUT 10 %. (AUTHS.)

METABOLISM, DEUTERIUM OXIDE, TRITIUM OXIDE, OXIDES, H-3, RATS, RADIONUCLIDES, ANIMALS, MAMMALS, RODENTS, TISSUES

06343

D. WEINGERGER
HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
METABOLISM OF HYDROGEN ISOTOPES BY ALGAE.
IN- BIOLOGY RESEARCH - ANNUAL REPORT 1952. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION,
HW-28636. PP 72-74, 1953, 1 FIG., 2 REFS.
U.S. ABC CONTRACT NO. W-31-109-ENG-52.

RAPIDLY GROWING ALGAE WERE SHOWN TO INCORPORATE TRITIUM AND DEUTERIUM FROM WATER AT ONLY ABOUT HALF THE RATE AT WHICH PROTIIUM IS INCORPORATED. NO SIGNIFICANCE CAN BE ATTACHED TO THE DIFFERENCES BETWEEN TRITIUM AND DEUTERIUM INCORPORATION. BOTH ISOTOPES, HOWEVER, ARE CLEARLY DISCRIMINATED AGAINST IN THE SYNTHETIC PROCESSES OF THE ALGAE.

METABOLISM, ALGAE, PLANTS, H-3, RADIONUCLIDES, DEUTERIUM

06344

J. H. REDISKE AND J. P. CLINE
HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
COMPARATIVE METABOLISM OF PROTIIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT.
IN- BIOLOGY RESEARCH - ANNUAL REPORT 1952. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION,
HW-28636. PP 75-77, 1953, 1 TAB.
U.S. ABC CONTRACT NO. W-31-109-ENG-52.

RED KIDNEY BEAN PLANTS WERE GROWN FROM GERMINATION IN A CONSTANT TRITIUM OXIDE AND DEUTERIUM OXIDE-LABELLED NUTRIENT ENVIRONMENT. THE CONCENTRATION OF TRITIUM OXIDE ATTAINED IN WATER FROM VARIOUS PLANT TISSUES DID NOT REACH THE CONCENTRATION MAINTAINED IN THE NUTRIENT SOLUTION. (AUTHS.)

METABOLISM, PROTIIUM, H-3, RADIONUCLIDES, BEANS, CROPS, LEGUMES, PLANTS, VEGETABLES, TRITIUM OXIDE, DEUTERIUM OXIDE, PROTIIUM OXIDE, OXIDES, DEUTERIUM

06345

M. E. GETZENDANER, M. P. FUJIHARA, AND H. A. KORNBERG
HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS.
IN- BIOLOGY RESEARCH - ANNUAL REPORT 1952. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION,
HW-28636. PP 98-109, 1953, 4 FIGS., 2 TABS., 5 REFS.
U.S. ABC CONTRACT NO. W-31-109-ENG-52.

THE RBE OF THE TRITIUM BETA WAS DETERMINED AS 1.7 COMPARED TO THE P-32 BETA. DATA ARE PRESENTED WHICH INDICATE THE SUPERIORITY OF INCUBATION OF LACTOBACILLUS CASEI AT 30 DEGREES C RATHER THAN 37 DEGREES C FOR TESTS OF THIS NATURE. STUDIES ARE REPORTED ON THE EFFECT OF RADIATION ON THE MORPHOLOGY OF L. CASEI. BENZOATE PHENOL SYSTEMS WERE EVALUATED AS INTERNAL RADIATION DOSIMETERS. BIOLOGICAL EFFECTIVENESS (BE), H-3, P-32, RADIONUCLIDES, IONIZING RADIATION, RADIATION, BETA RADIATION, NUCLEAR RADIATION, MICROBIOLOGY, LACTOBACILLUS, BACTERIA, MICROORGANISMS, PLANTS, DOSIMETRY, GROWTH, RADIOBIOLOGY

06346

H. L. RARRICK AND G. E. TUCKER, JR.
SANDIA CORPORATION, ALBUQUERQUE, N. MEX.
AN APPROXIMATION OF RADIATION DOSE RESULTING FROM AN ACCIDENTAL RELEASE OF TRITIUM GAS.
ALBUQUERQUE, N. MEX., SANDIA CORPORATION, SC-TM-406-59(33). 5 P., 1959 3 REFS.
A SIMPLE METHOD IS DEVELOPED FOR CALCULATING THE APPROXIMATE RADIATION DOSE FOR PERSONNEL EXPOSED TO AN ACCIDENTAL RELEASE OF TRITIUM GAS.
H-3, RADIONUCLIDES, GASES, DOSE ESTIMATION, RADIATION, ACCIDENTS

ROY C. THOMPSON

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE.
RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-30340. 29 P., 1954, 7 TABS., 8 REFS.
U.S. AEC CONTRACT NO. W-31-109-ENG-52.

DATA FROM A VARIETY OF EXPERIMENTS ARE INTERPRETED IN RELATION TO THE INCREASED HAZARD OCCASIONED BY NON-UNIFORM DISTRIBUTION OF TRITIUM OXIDE AND LONG-TERM RETENTION OF ORGANICALLY-BOUND TRITIUM IN THE BODY. IT IS CONCLUDED THAT NON-UNIFORM DISTRIBUTION OF BODY WATER MAY INCREASE RADIATION DOSAGE RATES TO CERTAIN TISSUES BY AS MUCH AS 25% OVER THAT WHICH WOULD BE CALCULATED ON THE ASSUMPTION OF UNIFORM DISTRIBUTION. TISSUE BINDING OF TRITIUM WILL NOT APPRECIABLY AFFECT DOSE RATES IMMEDIATELY FOLLOWING EXPOSURE, BUT MAY INCREASE THE TOTAL ABSORBED DOSE BY AN AVERAGE OF 10% FOR THE TOTAL BODY, AND PERHAPS BY AS MUCH AS 100% FOR CERTAIN SPECIFIC LOCATIONS WITHIN THE ORGANISM.
H-3, RADIONUCLIDES, TRITIUM OXIDE, OXIDES, DISTRIBUTION, TISSUES, RATS, ORGANS, RETENTION, ANIMALS, MAMMALS, RODENTS, BODY WATER, BODY FLUIDS, RADIATION EXPOSURE, SHBEP, DOMESTIC ANIMALS, LIVESTOCK

06348

L. M. GARD AND W. E. HALE

U.S. GEOLOGICAL SURVEY, DENVER, COLO.

GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA.

U.S. GEOLOGICAL SURVEY TECHNICAL LETTER, LONG SHOT-1. 32 P., 1964, 3 FIGS., 3 TABS., 6 REFS.

SUMMARIZES THE GEOLOGIC SETTING, THE GEOLOGY OF THE MEDIUM, AND THE HYDROLOGY OF THE LONG SHOT SITE. THE FEASIBILITY OF THE SITE FOR A CONTAINED NUCLEAR EXPLOSION IS EVALUATED ON THE BASIS OF AVAILABLE DATA. USING A CONSERVATIVE TRAVEL TIME TO THE OCEAN (13 YEARS) AND ASSUMING NO DISPERSION IN THE GROUND WATER SYSTEMS, TRITIATED WATER ABOUT 1000 TIMES MPC FOR THE POPULATION WOULD BE DISCHARGED ON THE OCEAN FLOOR AT A TIME BEGINNING ABOUT 13 YEARS AFTER THE SHOT. THE DISCHARGE RATE FOR THIS CONTAMINATED WATER, ESTIMATING A ZONE ABOUT 1000 FEET WIDE, WOULD BE ABOUT 500 CUBIC FEET PER DAY.

TRITIATED WATER WOULD NOT BE CONTRIBUTED TO THE SURFACE WATERS OR TO PRESENTLY DEVELOPED GROUND-WATER SUPPLIES OF THE ISLAND.

HYDROLOGY, GEOLOGY, LONG SHOT, AMCHITKA ISLAND, ALASKA, EXPLOSIONS, ALEUTIAN ISLANDS, UNDERGROUND NUCLEAR EXPLOSIONS, RADIONUCLIDES, H-3, NUCLEAR EXPLOSIONS, GROUND WATER, WATER, SURFACE WATERS, CONTAMINATION, STRATIGRAPHY, PETROGRAPHY, SEISMIC REFRACTION PROFILES, TRANSPORT, TRITIATED WATER

06350

W. VERLY

TRITIUM IN BIOLOGY.

BRUSSELS, CENTRE D'ETUDE DE L'ENERGIE NUCLEAIRE, NP-7148. 46 P., 1958, 10 FIGS., 2 TABS., 36 REFS.

APPLICATIONS OF TRITIUM AS A TRACER IN BIOLOGICAL STUDIES ARE REVIEWED. THE NATURAL OCCURRENCE OF TRITIUM, METHODS OF DETECTION, TOXIC EFFECTS ARE DISCUSSED. PROCEDURES ARE INCLUDED FOR THE PREPARATION OF A NUMBER OF TRITIATED ORGANIC COMPOUNDS FOR USE IN BIOLOGICAL TRACER STUDIES.
H-3, RADIONUCLIDES, TRACERS, BIOLOGICAL INDICATORS, AUTORADIOGRAPHY, RADIOBIOLOGY, RADIOCHEMISTRY

06353

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DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE SOLAR ORIGIN OF NATURAL TRITIUM.

PHYSICAL REVIEW, VOL. 105, PP 1125-1127, 1957, 14 REFS.

LIBBY AND CO-WORKERS HAVE ESTIMATED THE PRODUCTION RATE OF NATURAL TRITIUM AS $Q = 0.14 \text{ T ATOM/CM}^2 \text{ SEC}$ OF EARTH SURFACE (CM^2)-SEC, BASED ON THEIR MEASUREMENTS OF THE TRITIUM CONTENT OF NATURAL WATERS.

Q WAS CALCULATED SEPARATELY FROM MATERIAL BALANCE CONSIDERATIONS OVER (1) THE OCEANS, AND (2) THE CONTINENTS, EQUATING THE COSMIC-RAY PRODUCTION RATE WITH THE NET LOSS FROM THE OCEANIC AND CONTINENTAL ATMOSPHERES BY PRECIPITATION; THE VALUES OBTAINED WERE, RESPECTIVELY, 0.12 AND 0.16, IN GOOD AGREEMENT. Q IS CALCULATED, INDEPENDENTLY OF OBSERVED CONCENTRATIONS, TO BE APPROXIMATELY $0.2 \text{ T ATOM/CM}^2 \text{ SEC}$, AND, MORE PRECISELY, $0.14 \text{ (MINUS } 0.03, \text{ PLUS } 0.10)$, IN AGREEMENT WITH THE RATE INDICATED BY THE NATURAL CONCENTRATIONS. HOWEVER, THE TRITIUM PRODUCTION RATE MUST BE A GOOD DEAL HIGHER THAN THE FIGURES QUOTED ABOVE. ACCORDINGLY, THE T PRODUCTION RATE OVER THE NORTH AMERICAN CONTINENT WAS RECALCULATED, USING LIBBY'S DATA BUT TAKING INTO ACCOUNT REMOVAL OF T FROM THE CONTINENT BY THE OUTGOING WATER VAPOR FLUX, AS WELL AS BY RUNOFF. THE AVERAGE NET T PRODUCTION IN THE NORTH AMERICAN ATMOSPHERE IS FOUND TO BE ABOUT $1.2 \text{ PLUS OR MINUS } 0.5 \text{ ATOM/CM}^2 \text{ SEC}$, THE MAIN UNCERTAINTY BEING THE STORAGE TIME OF CONTINENTAL WATER. THE WORLD INVENTORY OF NATURAL TRITIUM IS FOUND TO BE ABOUT 20 KG, OR 200 MEGACURIES, MOST OF WHICH IS IN THE DEEP SEA WITH A PREDICTED CONCENTRATION OF ABOUT 0.015 T UNITS . THE PURPOSE OF THIS NOTE IS TO POINT OUT THAT APPROXIMATELY 1 PLUS OR MINUS $0.5 \text{ T ATOM/CM}^2 \text{ SEC}$, I. E., THE BULK OF THE WORLD PRODUCTION, CANNOT BE ACCOUNTED FOR BY PRESENT ESTIMATES OF THE CONTRIBUTION FROM COSMIC RAYS; THE DISCREPANCY IS ABOUT ONE ORDER OF MAGNITUDE.
H-3, RADIONUCLIDES, DISTRIBUTION, MATHEMATICAL ANALYSIS, ANALYSIS, PRODUCTION RATE, NORTH AMERICA, ATMOSPHERE (TERRESTRIAL)

06354

P. BEGEMANN

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THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68, NO. 13, PP 3757-3758, 1963, 8 REFS.

TRITIUM IS KNOWN TO OCCUR IN THREE DIFFERENT CHEMICAL COMPOUNDS IN THE TERRESTRIAL ATMOSPHERE: WATER, MOLECULAR HYDROGEN, AND METHANE. UNDER NATURAL CONDITIONS THE TRITIUM LEVELS FOUND IN TROPOSPHERIC MOISTURE COVER THE RANGE FROM A FEW TENTHS OF A TU (MOISTURE OVER SEA) TO ABOUT 80 TU (IN GREENLAND SNOW). SINCE THE ADDITION OF MAN-MADE T TO THE NATURAL INVENTORY, THE T CONTENT OF MOLECULAR H HAS INCREASED BY MORE THAN A FACTOR OF 20, WHEREAS THE RELATIVE AMOUNT OF HT IS WITHIN A FACTOR OF 5 OF THE AMOUNT UNDER NATURAL CONDITIONS. THE AMOUNT OF T PRESENT IN ATMOSPHERIC CH, UNDER EQUILIBRIUM CONDITIONS IS NOT KNOWN.

H-3, RADIONUCLIDES, HYDROGEN, GASES, METHANE, ATMOSPHERE (TERRESTRIAL)

06355

P. AVINUR AND A. NIR

WEIZMANN INSTITUTE OF SCIENCE, ISOTOPE DEPT., REHOVOTH, ISRAEL

SEPARATION FACTOR OF TRITIATED WATER FRACTIONAL IN DISTILLATION.

SCIENCE, VOL. 188, 852 P., 1960, 1 TAB., 6 REFS.

THE UNIT PROCESS SEPARATION FACTOR FOR TRITIATED WATER FROM ORDINARY WATER, DEFINED AS THE RATIO OF THE CONCENTRATION OF TRITIATED WATER IN THE LIQUID PHASE TO THAT IN THE VAPOUR PHASE AT EQUILIBRIUM (AT LOW CONCENTRATIONS), MAY BE FOUND FROM KNOWN CONCENTRATIONS AT THE TOP OF A SEPARATION COLUMN AND AT THE BOTTOM OF IT OR IN THE BOILER. THE VALUE OF XT REPORTED BY US PREVIOUSLY WAS $1.055 \text{ PLUS OR MINUS } 0.002$ AT 260 MM MERCURY. THE VALUES FOUND FROM LATER EXPERIMENTS ARE GIVEN AND ARE CONSIDERABLY SMALLER THAN THE VALUE OF 1.13 FOUND BY PRICE.

SEPARATION FACTOR, H-3, RADIONUCLIDES, WATER, SEPARATION TECHNIQUES

06362

A. R. G. LANG AND S. G. MASON

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TRITIUM EXCHANGE BETWEEN CELLULOSE AND WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF CYCLIC DRYING.

CANADIAN JOURNAL OF CHEMISTRY, VOL. 38, PP 373-387, 1960, 4 FIGS., 2 TABS., 44 REFS.

TRITIUM EXCHANGE BETWEEN CELLULOSE AND WATER VAPOR WAS USED TO MEASURE THE ACCESSIBILITIES OF AMYLOPECTIN, AMYLOSE, REGENERATED CELLULOSE, WOOD PULP, BACTERIAL AND VALONIA CELLULOSE, AND CELLULOSE TRINITRATE USING BOTH GAS COUNTING AND SOLID COUNTING TECHNIQUES. THE RESULTS COMPARE SATISFACTORILY WITH OTHER ACCESSIBILITY AND CRYSTALLINITY MEASUREMENTS. THE INCOMPLETE REVERSIBILITY OF THE EXCHANGE REACTION WAS USED TO STUDY DIRECTLY CHANGES IN THE ACCESSIBILITY OF REGENERATED CELLULOSE WHICH OCCURRED DURING REPEATED WETTING AND DRYING FROM WATER. THE RESULTS INDICATED

THAT A PARTIAL INTERCHANGE OF ACCESSIBLE AND INACCESSIBLE REGIONS OCCURS DURING WETTING AND DRYING.
(AUTHS.)
H-3, RADIONUCLIDES, WATER VAPOR, GASES, CELLULOSE, CHEMICAL REACTIONS, EXCHANGE REACTIONS, CHEMICAL ANALYSIS, ANALYSIS

06363

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UNIVERSITY OF CALIFORNIA, DEPT. OF CHEMISTRY AND INSTITUTE OF GEOPHYSICS, LOS ANGELES, CALIF.
MORATORIUM TRITIUM GEOPHYSICS.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68, NO. 15, PP 4485-4494, 1963, 2 FIGS., 6 TABS., 14 REFS.
THE ADDITIONS OF ARTIFICIAL TRITIUM TO THE ATMOSPHERE BY THE EXPLOSION OF THERMONUCLEAR DEVICES BEFORE THE BEGINNING OF THE THREE- YEAR MORATORIUM ON NUCLEAR TESTING IN AUGUST 1958 WERE OBSERVED, AS THEY DISTRIBUTED THEMSELVES AMONG THE SURFACE WATERS AND IN THE ATMOSPHERE, BY MEASUREMENT OF THE TRITIUM CONTENT OF WATER SAMPLES TAKEN DURING THE MORATORIUM. THESE DATA, TOGETHER WITH THOSE OF OTHER WORKERS, HELP FILL IN A GEOPHYSICAL PICTURE FOR THE MOVEMENTS OF THE SURFACE WATERS AND ATMOSPHERIC MOISTURE AND GIVE THE FOLLOWING CONCLUSIONS- (1) THE BOMB AND NATURAL TRITIUM DISTRIBUTIONS ARE ROUGHLY PROPORTIONAL, AND SO THE SAME FACTORS CONTROL THEIR DISTRIBUTION. AT THE END OF THE MORATORIUM THERE WAS ABOUT TWELVE TIMES AS MUCH TRITIUM IN THE WATERS OF THE NORTHERN HEMISPHERE AS THE NATURAL INVENTORY. (2) THE TOTAL BOMB TRITIUM RELEASED OFFSHORE BEFORE 1961 WAS ABOUT 2-10 (28) ATOMS AS OF THE SUMMER OF 1961, OF WHICH ABOUT 1.5-10 (27) WERE STILL IN THE STRATOSPHERE. (3) THE TRITIUM STRATOSPHERIC FALLOUT SHOWS A PEAK AT MIDDLE LATITUDES SIMILAR TO THAT FOUND FOR STRATOSPHERIC PARTICULATE MATTER SUCH AS SR-90. (4) SUMMER MAXIMUMS APPEAR IN THE TROPOSPHERIC MOISTURE OVER CONTINENTS AND DOWNWIND THEREFROM BECAUSE OF EVAPORATION OF TOP SURFACE WATER OF HIGH CONCENTRATION, POSSIBLY BY MEANS OF PLANT TRANSPIRATION. (5) THE PRINCIPAL MECHANISM FOR MOVEMENT OF WATER OVER THE WORLD IS THE WIND. (6) A RECONSIDERATION OF THE DATA ON NATURAL TRITIUM INDICATES THAT THE MEAN PRECIPITATION RATE OF THE PACIFIC AND ATLANTIC IN THE 30 DEGREES TO 50 DEGREES N LATITUDE BAND IS ABOUT 2.5 METERS/YEAR AS COMPARED TO THE EARLIER FIGURE OF ABOUT ONE-THIRD THIS AMOUNT AND THE U. S. LAND FIGURE OF 0.68 METER/YEAR. THE DISCREPANCY MAY BE DUE TO 1.7 METER/YEAR OF OCEAN SPRAY WHICH EQUILIBRATES WITH ATMOSPHERIC MOISTURE.
H-3, RADIONUCLIDES, SURFACE WATERS, ATMOSPHERE (TERRESTRIAL), NUCLEAR EXPLOSIONS, EXPLOSIONS

06364

WARREN J. KAUFMAN AND GERALD T. ORLOFF
UNIVERSITY OF CALIFORNIA, BERKELEY, CALIF.
MEASURING GROUND WATER MOVEMENT WITH RADIOACTIVE AND CHEMICAL TRACERS.
JOURNAL OF THE AMERICAN WATER WORKS ASSOCIATION, VOL. 48, PP 559-572, 1956, 7 FIGS., 3 TABS., 11 REFS.

THE MEASUREMENT OF THE NATURAL TRITIUM CONTENT OF GROUND WATERS OFFERS A MEANS OF ESTIMATING THE PERIOD OF TIME SUCH WATERS HAVE BEEN IN THE GROUND AND MAY PROVE A VALUABLE TOOL TO THE GROUND WATER HYDROLOGIST. THE APPLICATION OF ARTIFICIALLY PRODUCED TRITIUM, AS TRITIATED WATER (HTO), TO GROUND WATER MEASUREMENTS WAS INVESTIGATED WITH THE LUCITE COLUMNS OF YOLO AND HANFORD LOAM.

EXCHANGEABLE WATER, ON AN OVEN-DRY WEIGHT BASIS, WAS CALCULATED TO BE 7.1 PER CENT FOR THE YOLO LOAM AND 0.98 PER CENT FOR THE HANFORD LOAM.
TRACERS, GROUND WATER, WATER, H-3, RADIONUCLIDES

06365

K. E. COWSER, P. L. PARKER, JACOB TADMOR, W. J. BOEGLY, JR., D. G. JACOBS, G. H. LLEWELLYN, AND D. A. DYSLIN
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS.
IN- HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT, FOR THE PERIOD ENDING JULY 31, 1967. OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-4168. PP 39-48, 1967, 4 FIGS., 1 TAB., 34 REFS.
U. S. AEC CONTRACT NO. W-7405-ENG-28.

THE COMPLETE RELEASE OF KR-85 AND H-3 DURING THE REPROCESSING OF SPENT REACTOR FUEL MAY IMPOSE UNACCEPTABLE RADIATION EXPOSURES TO MAN AND HIS ENVIRONMENT AS NUCLEAR POWER PRODUCTION INCREASES. STUDY INDICATES THAT THE WORLDWIDE DISTRIBUTION OF THESE RADIONUCLIDES IN THE YEAR 2000 MAY RESULT IN A TOTAL BODY DOSE RATE OF 1.8 MILLIREMS/YEAR FROM KR-85 AND A BODY TISSUE DOSE RATE OF $2.1 \times 10^{(MINUS 3)}$ MILLIREM/YEAR FROM H-3. ACCEPTABLE RATES OF KR-85 AND H-3 RELEASE ARE NOW BEING INVESTIGATED FOR A HYPOTHETICAL FUEL-REPROCESSING PLANT LOCATED IN OAK RIDGE. THE WASHOUT COEFFICIENT OF TRITIATED WATER VAPOR (HTO) HAS BEEN ESTIMATED FROM CHAMBERLAIN'S CALCULATIONS FOR SO-2 DEPOSITION IN RAINWATER. LOSS OF HTO FROM THE RAINDROP TO THE ATMOSPHERE WAS ASSUMED TO BE NEGLIGIBLE. A WASHOUT COEFFICIENT OF $4 \times 10^{(MINUS 4)}$ SEC (MINUS 1) FOR HTO VAPOR IS CONSISTENT WITH THAT INDICATED BY CHAMBERLAIN AND EGGLETON. ASSUMING AN AVERAGE CONTENT OF WATER VAPOR OF 8.6 /GM3 (AT 50% RELATIVE HUMIDITY AND 20 DEGREES C) THE CONCENTRATION OF TRITIUM IN THE ATMOSPHERE IS ESTIMATED TO BE $2.9 \times 10^{(MINUS 11)}$ CURIE/M3. THE TRITIUM CONTENT IN A COLUMN OF THE ATMOSPHERE 1 MILE HIGH AND 1 M2 IN AREA IS $4.7 \times 10^{(MINUS 6)}$ CURIE. THE RATE OF TRITIUM REMOVAL BY A 4-MM/HR RAINFALL ON AN AREA OF 1 M2 WOULD BE $5.1 \times 10^{(MINUS 12)}$ CURIE/SEC. THEREFORE, THE WASHOUT COEFFICIENT IS CALCULATED TO BE $1.1 \times 10^{(MINUS 4)}$ SEC (MINUS 1).

H-3, RADIONUCLIDES, BODY BURDEN, SAFETY, RADIATION EXPOSURE, DOSE RATE, WASHOUT, TRITIATED WATER

06367

ROGER DON SHULL AND BARNEST P. GLOYNIA
UNIVERSITY OF TEXAS, ENVIRONMENTAL HEALTH ENGINEERING RESEARCH LABORATORY, AUSTIN, TEX.
RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS.
U. S. AEC REPORT, ORO-490-15. 252 P., 1966, 34 FIGS., 20 TABS., 81 REFS.
U. S. AEC CONTRACT NO. AT(11-1)-490.

THE TRANSPORT OF RADIONUCLIDES IN RIVERS WAS SIMULATED WITH A MATHEMATICAL MODEL. LARGE UNREGULATED RIVERS RECEIVING CONTINUOUS NORMAL WASTE DISCHARGES WERE STUDIED WITH THE MODEL. THE MODEL INCLUDED STOCHASTIC TEMPORAL FLOW VARIATION, DETERMINISTIC LONGITUDINAL FLOW VARIATION, THREE-DIMENSIONAL CHANNEL GEOMETRY VARIATION WITH TIME AND DISTANCE, GENERALIZED BOUNDARY SORPTION, BOUNDARY EROSION, AND FLOODING. RIVERS OF ERRATIC FLOW, GRADUALLY VARYING FLOW, AND NONVARYING FLOW WERE STUDIED.

HYDROLOGIC STATISTICAL VARIATIONS IN THE SYSTEM WERE EXAMINED. EFFECTS OF VARIATIONS IN RADIOACTIVE HALF-LIFE, SURFACE CONCENTRATION DISTRIBUTION COEFFICIENT, MASS TRANSFER COEFFICIENT, AND SORPTION REVERSIBILITY WERE ALSO INVESTIGATED. VARIATIONS IN THE MASS TRANSFER COEFFICIENT WERE NOT SIGNIFICANT, BUT WERE INFLUENTIAL. ON A LONG-TERM BASIS, FLOW VARIABILITY HAD A SIGNIFICANT EFFECT ON TRANSPORT OF SHORT-LIVED RADIONUCLIDES, BUT A NEGLIGIBLE EFFECT ON TRANSPORT OF LONG-LIVED NUCLIDES. STUDIES ON CONTINUOUS SEDIMENTATION ZONES INDICATED THAT SIGNIFICANT QUANTITIES OF LONG-LIVED RADIONUCLIDES MAY ACCUMULATE THEREIN. (AUTHS.)

H-3, RADIONUCLIDES, RIVERS, WATER, TRANSPORT, MATHEMATICAL MODELS, MODELS

06368

FRANKLIN RANNEY AND YOASH VAADIA
F. RANNEY, UNIVERSITY OF CALIFORNIA, DEPT. OF IRRIGATION, LABORATORY OF PLANT WATER RELATIONS, DAVIS CALIF.; Y. VAADIA, ARID ZONE RESEARCH INSTITUTE, DEPT. OF PLANT PHYSIOLOGY, BEERSHEVA, ISRAEL
MOVEMENT AND DISTRIBUTION OF THO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA.

PLANT PHYSIOLOGY, VOL. 40, PP 383-388, 1965, 8 FIGS., 9 REFS.
U. S. ARMY ELECTRONIC PROVING GROUNDS, CONTRACT DA-36-039-SC903-34.

THE DISTRIBUTION OF TRITIUM IN A SUNFLOWER PLANT IN LIGHT WITH ROOTS IN TRITIATED WATER WAS STUDIED AS A FUNCTION OF TIME. DURING ONE 12-HOUR LIGHT PERIOD, CONCENTRATIONS OF TRITIUM IN THE STEM, TISSUE AND PETIOLES OF MATURE LEAVES APPROACHED EQUALITY WITH THE CONCENTRATION OF TRITIUM IN THE NUTRIENT SOLUTION. THE APPROACH TO EQUALITY WAS MUCH SLOWER IN THE TERMINAL SEVERAL NODES AND THE INTERNODES THAT WERE STILL ELONGATING AND IN LEAF TISSUE THAT WAS STILL EXPANDING. THE APICAL 2 NODES AND INTERNODES, BRACTS, INFLORESCENCE PARTS, AND SEEDS DID NOT REACH EQUALITY EVEN WHEN THE PLANTS HAD BEEN GROWN FROM SEED TO SEED MATURITY IN TRITIATED WATER. THE TRITIUM CONCENTRATION

IN THE LEAVES OF INTACT PLANTS GROWING IN EXTERNAL MEDIUM OVER A PROTRACTED PERIOD. ALTHOUGH THE VEINS THEMSELVES EQUILIBRATED IN A MANNER SIMILAR TO THAT OF THE MATURE STEM AND PETIOLE, THE INTERVEINAL TISSUE DID NOT REACH TRITIUM EQUALITY WITH MAJOR VEINS, THE STEM, OR THE EXTERNAL SOLUTION. WATER OF THE INTERVEINAL TISSUE MAINTAINED A STABLE TRITIUM CONTENT AT 80 TO 70% OF EXTERNAL CONCENTRATION FOR LONG PERIODS. THE PATTERN OF RESULTS OBTAINED WAS SIMILAR IN SUNFLOWER AND TOBACCO. TRITIUM CONTENT OF LEAF-TISSUE WATER VAPOR TRANSPIRED BY THE CANOPY OF AN INTACT SUNFLOWER PLANT RAISED FROM SEED IN THO AND TREATED WITH A STREAM OF DRY AIR INSIDE A CLOSED CHAMBER INCREASED OVER A 12-HOUR PERIOD. AT THE END OF THIS PERIOD, INTERVEINAL TISSUE WATER AND TRANSPIRED VAPOR REACHED AT LEAST 95% OF THE EXTERNAL TRITIUM CONCENTRATION ABOUT THE ROOTS. IT WAS SHOWN THAT THE LACK OF EQUILIBRATION IN INTERVEINAL TISSUE SHOULD BE ATTRIBUTED TO EXCHANGE OF TRITIUM BETWEEN THE LEAF AND THE SURROUNDING UNLABELED WATER VAPOR OF THE ATMOSPHERE. THE RESULTS REPORTED HERE CONTRADICT THE HYPOTHETICAL CONCEPT THAT A SIZEABLE FRACTION TISSUE WATER IS INACCESSIBLE FOR TURNOVER. (AUTHS.) H-3, RADIONUCLIDES, WATER VAPOR, HELIANTHUS, PLANTS, NICOTIANA, GASES, TISSUES, MOVEMENT, DISTRIBUTION, TRITIATED WATER, TRANSPIRATION, FLOWERING PLANTS

06369

R. V. OSBORNE

ATOMIC ENERGY OF CANADA LIMITED, CHALK RIVER, ONTARIO, CANADA
STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LIMITED, AECL-2699. 21 P., 1967, 13 FIGS., 7 REFS.

IONIZATION CHAMBERS AND PLASTIC SCINTILLATION DETECTORS ARE USED TO MEASURE TRITIATED WATER (HTO) VAPOUR IN AIR DOWN TO 0.5 MICRO CI M (MINUS 3). THEIR RESPONSES TO GAMMA BACKGROUND ARE REDUCED 98% BY SUBTRACTING THE IONIZATION CURRENT FROM A CONCENTRIC SEALED IONIZATION CHAMBER AND BY SCINTILLATION PULSE HEIGHT ANALYSIS. THE PENETRATION OF HTO THROUGH HUMAN SKIN HAS BEEN STUDIED EXPERIMENTALLY BY EXPOSING VOLUNTEERS TO HTO VAPOUR. THE AVERAGE INTAKE THROUGH THE TOTAL SKIN AREA WAS 10 MICRO CI MIN (MINUS 1) FROM A CONCENTRATION IN AIR OF 1 MICRO CI LITRE (MINUS 1). THIS INTAKE RATE WAS REDUCED AT LEAST 10 TIMES WHEN A 0.004 INCH POLYVINYL CHLORIDE (PVC) SUIT WAS WORN AND 1000 TIMES WHEN A SUIT MADE UP OF A DOUBLE LAYER OF PVC ENCLOSING A FILM OF WATER WAS WORN. THE PERMEATION OF HTO IN SEVERAL HOURS THROUGH THE LATTER WAS LOWER THAN THAT THROUGH ANY OF THE OTHER POLYMERIC FILMS, SUITABLE FOR PROTECTIVE CLOTHING, WHICH WERE MEASURED IN THE LABORATORY. RESPIRATORS WITH CHARCOAL FILTERS HAVE BEEN SHOWN TO HOLD UP PASSAGE OF HTO VAPOUR; THE RESPIRATORY INTAKE WAS REDUCED BY AT LEAST 10 TIMES FOR A TOTAL INHALATION OF 1.0 M(3) OF AIR. AIR-SUPPLIED RESPIRATORS WERE BETTER; A 10 (4) TIMES REDUCTION WAS OBTAINED EXPERIMENTALLY. AN AUTOMATIC URINALYSER ALLOWS WORKERS TO MEASURE THEIR OWN BODY BURDENS OF TRITIUM IN TWO MINUTES. THE INSTRUMENT USES LIQUID SCINTILLATOR TO DETECT TRITIUM IN URINE. AS LITTLE AS 1 MICRO CI LITRE (MINUS 1) MAY BE MEASURED. (AUTH.)

H-3, RADIONUCLIDES, WATER VAPOR, GASES, ABSORPTION, SKIN, MAN, BODY BURDEN, URINALYSER, INSTRUMENTS, EQUIPMENT, IONIZATION CHAMBER, SCINTILLATION DETECTOR, PROTECTIVE CLOTHING

06370

J. C. COREY

E. I. DUPONT DE NEMOURS AND CO., AIKEN, S.C.

CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.

AIKEN, S. C., E. I. DUPONT DE NEMOURS AND CO., SAVANNAH RIVER LABORATORY, DP-MS-67-95. 24 P.,

1968, 7 FIGS., 2 TABS., 16 REFS.

U.S. AEC CONTRACT NO. AT(07-2)-1.

TRITIATED WATER DEPOSITED ON THE SOIL RETURNS DIRECTLY TO THE ATMOSPHERE BY EVAPORATION FROM THE SOIL SURFACE AND BY TRANSPIRATION BY PLANTS. THE TIME FOR TRITIATED WATER TO EVAPORATE FROM A LOAMY SAND WAS MEASURED WHEN TRITIATED WATER WAS PLACED 0 TO 14, 14 TO 28, OF 28 TO 42 CM BELOW THE SURFACE AND FOR SOIL WATER CONTENTS OF 0.05 AND 0.10 G/G OF OVEN-DRY SOIL. THE EVAPORATION TIME INCREASED WITH THE DEPTH OF PLACEMENT AND WITH A DECREASE IN WATER CONTENT. TRITIATED WATER 14 TO 28 CM BELOW THE SOIL SURFACE DID NOT EVAPORATE BEFORE 60 HR. TRITIATED WATER 28 TO 42 CM BELOW THE SOIL SURFACE DID NOT EVAPORATE BEFORE 200 HR FROM SOIL WET TO 0.10 G/G OF OVEN-DRY SOIL, AND NOT BEFORE 300 HR FROM SOIL WET TO 0.05 G/G OF OVEN-DRY SOIL. (AUTH.)

H-3, RADIONUCLIDES, WATER, SOIL MOISTURE, MOISTURE, EVAPOTRANSPIRATION

06371

JOHN J. KORANDA AND JOHN R. MARTIN

THE PERSISTENCE OF RADIONUCLIDES AT SITES OF NUCLEAR DETONATIONS.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-71867. 50 P.,

1969, 24 FIGS., 1 TAB., 22 REFS.

THE STUDY OF THE PERSISTENCE OF RADIONUCLIDES AT THE NUCLEAR DETONATION SITE BECOMES AN EXTREMELY COBENT SUBJECT PERTINENT TO THE PEACEFUL USES OF NUCLEAR EXPLOSIVES. IN ADDITION, THE DETONATION SITE CAN BECOME A SOURCE REGION FOR RADIONUCLIDE RELEASE INTO THE SURROUNDING ENVIRONMENTS WHICH PROBABLY WOULD CONTAIN FOOD ORGANISMS USED EITHER DIRECTLY OR INDIRECTLY BY MAN. ONE OF THE PRINCIPAL AIMS OF OUR RESEARCH IS TO DEFINE THE DISTRIBUTION OF RADIOACTIVITY AT THE DETONATION SITE WHERE BARTH HAS BEEN MOVED TO CREATE A CRATER OR A TRENCH. SUBSEQUENT ECOLOGICAL STUDIES ARE THEN DIRECTED TOWARD THE BIOLOGICAL SYSTEMS THAT COME IN CONTACT WITH THAT RADIOACTIVE SUBSTRATUM. RADIONUCLIDES, NUCLEAR EXPLOSIONS, RADIOACTIVITY, DISTRIBUTION, H-3

06372

B. SHORE, L. ANSPAUGH, R. CHERTOK, J. GOPMAN, P. HARRISON, R. HEPT, J. KORANDA, Y. NG, P. PHELPS, G. POTTER, AND A. TAMPLIN

THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN PLOWSHARE EVENTS.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-71443. 65 P.,

1969, 20 FIGS., 11 TABS., 41 REFS. (CONF-690406-9)

AN EXAMPLE OF THE KIND OF RESEARCH CARRIED OUT AT THE SITES OF PLOWSHARE EXCAVATIONS IS STUDIES AT SEDAN CRATER. BECAUSE OF ITS POTENTIAL IMPACT ON THE BIOSPHERE, STUDIES ON THE FATE OF RESIDUAL TRITIUM ARE EMPHASIZED. APPROXIMATELY ONE-MILLION CURIES OF RESIDUAL TRITIUM AS THO WAS INJECTED INTO THE MASS OF EARTH DEPOSITED AROUND THE CRATER BY THE DETONATION. IN 1966, STUDIES BEGAN AT SEDAN CRATER ON THE BEHAVIOR OF THIS TRITIUM IN THE SOIL (SJECTA), THE INVADING PLANT SPECIES, AND THE ANIMAL POPULATIONS THAT SUBSIST ON THE VEGETATION. AT SEDAN CRATER, EQUILIBRIUM CONCENTRATIONS IN THE SOIL WATER OF THE PLANT ROOT ZONE, IN THE TISSUE WATER OF THE PLANT STEMS AND LEAVES, AND IN THE TRANSPIRATIONAL WATER RELEASED BY THE AERIAL PORTIONS OF THE PLANT WERE FOUND. THE TRITIUM CONCENTRATIONS IN THE SMALL MAMMALS AT SEDAN CRATER CONSTITUTE AN UNIQUE KIND OF CHRONIC EXPOSURE; THIS POPULATION OF MAMMALS APPARENTLY RECEIVED ITS INITIAL EXPOSURE TO TRITIUM IN UTERO NOT ONLY FROM BODY WATER BUT ALSO FROM TRITIATED ORGANIC COMPOUNDS RECEIVED BY PLACENTAL TRANSFER FROM THE PARENT ANIMAL. ACCORDINGLY THEY ARE BEING SUBJECTED TO VARIOUS KINDS OF PHYSIOLOGICAL AND BIOCHEMICAL STUDIES. OUR STUDIES CLEARLY INDICATE THAT TRITIUM IS THE MOST ABUNDANT RADIONUCLIDES IN THE POSTSHOT ENVIRONMENT OF SEDAN.

H-3, RADIONUCLIDES, PLOWSHARE PROGRAM, SEDAN, NUCLEAR EXPLOSIONS, PLANTS, MAMMALS, ANIMALS, SOILS, EXPLOSIONS, NUCLEAR CRATERS, TRITIATED WATER

06373

ATOMIC ENERGY OF CANADA LTD.

PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968, BIOLOGY AND HEALTH PHYSICS DIVISION.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD. AECL-3158. 46 P., 1968, 4 FIGS., 2 TABS.

A STUDY OF THE OTTAWA DRAINAGE BASIN HAS INDICATED A FRACTIONAL TURNOVER RATE OF 0.27 PER ANNUM, GIVING A MEAN RESIDENCE TIME FOR WATER IN THE SYSTEM OF 3.7 YRS AND A MEAN STORED VOLUME OF 2.1 M OVER THE AREA OF THE BASIN. SINCE 1965, THE TRITIUM DISCHARGE OF SIX MAJOR RIVERS OF CANADA HAS BEEN MEASURED FOR CORRELATION WITH DEPOSITION DATA. THE PRESENCE OF HIGH CONCENTRATIONS IS UNEQUIVOCAL EVIDENCE OF RECHARGE OF THE SYSTEM WITHIN THE PAST 15 YRS. IN FAVORABLE CIRCUMSTANCES WHERE SOME KNOWLEDGE OF THE STRUCTURE OF THE SYSTEM IS AVAILABLE, TRAVEL TIMES OF TRITIUM IN AN AQUIFER CAN BE ESTIMATED AND THE MEAN VELOCITY OF GROUNDWATER MOVEMENT DEDUCED. THE PATTERN OF TRITIUM DEPOSITION OF THE PERIOD 1954-66 HAS BEEN OBSERVED IN THE RINGS OF TREES GROWING ON WELL-DRAINED

SANDY SOIL. FOR MOST YEARS THE CONCENTRATIONS IN THE TREE RINGS WERE CLOSE TO THE CONCENTRATIONS OF THE PRECIPITATION OF THE CORRESPONDING GROWTH PERIOD, INDICATING RAPID INFILTRATION OF CURRENT PRECIPITATION TO THE ROOT LEVELS OF THE TREE.
H-3, RADIONUCLIDES, WATER, ATMOSPHERE (TERRESTRIAL), CANADA, RIVERS, GROWTH RINGS, SOIL MOISTURE, MOISTURE, PRECIPITATION (METEOROLOGICAL), SEASONAL VARIATIONS, DEPOSITION

06374

ATOMIC ENERGY OF CANADA LIMITED

PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, AECL-3284.

12 P., 1969, FIGS., TABS., REFS.

ABOUT 650 CI OF TRITIUM APPEARED IN THE SURFACE STREAMS OF THE DISPOSAL AREA DURING THE YEAR. APPROX 1200 CI WERE ADDED TO THE REACTOR PIT. THE PROCESS SEWER CONTRIBUTED ABOUT 1200 CI TO THE OTTAWA RIVER, WHILE ABOUT 450 CI REACHED THE RIVER FROM PERCH CREEK. ALL THESE FIGURES ARE SUBSTANTIALLY BELOW THOSE OF 1967. IN THE MACKENZIE, NELSON AND ST. LAWRENCE SYSTEMS THE RATE OF DISCHARGE IN 1967 WAS STILL LESS THAN THE GROSS DEPOSITION RATE, REFLECTING THE LONG HOLD-UP TIME OF THESE LARGE SYSTEMS. THE DISCHARGE OF TRITIUM BY THE OTTAWA AND SAQUENAY RIVERS HAS EXCEEDED THE RATE OF DEPOSIT OVER THEIR BASIN AREAS SINCE 1966. THE INVENTORY OF TRITIUM IN THE OTTAWA BASIN IN JUNE 1968 WAS 6.6×10^{19} ATOMS/CM(2), I.E. 3.9×10^{15} CI FOR THE WHOLE BASIN. THE MEAN FLOW OF TRITIUM PAST CRNL IN THE PERIOD JULY 1967-JUNE 1968 WAS 129 CI/DAY, OF WHICH 3 CI/DAY WAS COSMIC-RAY PRODUCED. ABOUT 4 CI/DAY OF REACTOR TRITIUM WAS ADDED BY CRNL IN THIS PERIOD. CONSIDERABLE VARIATIONS IN UPTAKE RATES WERE OBSERVED BETWEEN SIX VOLUNTEERS AND VARIATIONS WERE ALSO FOUND IN TWO SERIES OF EXPOSURES, ONE CARRIED OUT IN THE LATE WINTER AND SPRING AND THE OTHER DURING THE FALL. UPTAKE RATES IN THE FALL WERE GENERALLY HIGHER. MEASUREMENTS INDICATE THAT WASHING AFTER A LONG EXPOSURE (MORE THAN 5 MINS) IS EQUIVALENT TO REDUCING THE EXPOSURE TIME BY ABOUT 3 TO 4 MINS. WASHING WITH COLD WATER SEEMS TO BE MORE EFFECTIVE THAN WITH HOT WATER.
H-3, RADIONUCLIDES, RADIOACTIVE TRACERS, TRACERS, RIVERS, INSTRUMENTS, PRECIPITATION (METEOROLOGICAL), EQUIPMENT, ABSORPTION, SKIN, MAN

06375

P. S. ROWLAND

UNIVERSITY OF KANSAS, LAWRENCE KAN.

SYNTHESES WITH TRITIUM.

IN- INORGANIC ISOTOPIC SYNTHESIS. R. H. HERBER, ED. NEW YORK, W. A. BENJAMIN INC. PP 54-73, 1962, 102 REFS.

GENERAL INFORMATION ABOUT TRITIUM IS DISCUSSED INCLUDING ITS NUCLEAR CHARACTERISTICS, NATURAL OCCURRENCE AND ARTIFICIAL PRODUCTION. METHODS OF MEASURING TRITIUM RADIOACTIVITY ARE SCINTILLATION COUNTING AND AUTORADIOGRAPHY. THE MOST IMPORTANT SYNTHETIC TECHNIQUES USING TRITIUM ARE- (A) DIRECT CHEMICAL SYNTHESIS FROM AT LEAST ONE RADIOACTIVE STARTING MATERIAL; (B) ISOTOPIC EXCHANGE BETWEEN A SUITABLE RADIOACTIVE MATERIAL AND THE COMPOUND TO BE LABELED; AND (C) ENERGETIC SYNTHESSES IN WHICH TRITIUM SUBSTITUTION OCCURS DURING CHEMICAL REACTIONS INITIATED BY TRITIUM B-DECAY, GAMMA RADIATION, ELECTRIC DISCHARGE, KINETIC ENERGY FROM NUCLEAR RECOIL, ETC. SPECIFIC METHODS USING TRITIUM INCLUDE THE WILZBACH SYNTHESIS, TRITIATED HYDROGEN AND TRITIATED WATER. SPECIFIC COMPOUNDS CONTAINING TRITIUM HAVE BEEN DESCRIBED WITH ELEMENTS OF GROUPS I-VII.
H-3, RADIONUCLIDES, CHEMICAL REACTIONS

06376

JERRY R. KLINE, CARL F. JORDAN, AND GEORGE E. DREWRY

PUERTO RICO NUCLEAR CENTER, MAYAGUEZ, PUERTO RICO

THE RAIN FOREST PROJECT ANNUAL REPORT.

MAYAGUEZ, PUERTO RICO NUCLEAR CENTER, PRNC-119. 149 P., 1968, FIGS., TABS., REFS.

U.S. AEC CONTRACT NO. AT(40-1)-1833.

TRITIATED WATER APPLIED TO THE SURFACE OF SOIL IN A TROPICAL RAIN FOREST WAS FOUND IN FREE WATER OF THE LITTER AND TOP 18 CM OF SOIL AS LONG AS 7 MONTHS AFTER THE APPLICATION. WE NOW REPORT ON THE RESIDENCE HALF-TIMES OF TRITIUM IN CLAY SOILS OF THE TROPICAL RAIN FOREST IN THE LUQUILLO MOUNTAINS OF EASTERN PUERTO RICO. TRITIUM ACTIVITY IN SOIL WATER COLLECTED 18 CM BELOW THE SURFACE REACHED A PEAK IN APPROXIMATELY 16 DAYS AND DECLINED EXPONENTIALLY DURING THE REST OF THE EXPERIMENT.

THE FIRST PHASE OF TRITIUM RELEASE IN SOIL-SURFACE WATER HAS AN EFFECTIVE HALF-LIFE OF APPROX 2.9 DAYS; THE SECOND PHASE HAD A HALF-LIFE OF 35.6 DAYS. A THEORETICAL MODEL FOR THE BEHAVIOR OF TRITIUM IN SOILS CONTENDS THAT TRITIATED WATER APPLIED AS A UNIT PULSE TO A SOIL SURFACE WILL MOVE DOWNWARD IN THE SOIL PROFILE AS A FRONT OR PEAK WHICH SEPARATES PRE-EXISTING WATER FROM WATER ENTERING THE SYSTEM AFTER THE TRITIUM INPUT. ACCORDING TO THE MODEL, THE PEAKING PHENOMENON OCCURS BECAUSE OF THE RAPID RATE OF SELF DIFFUSION IN SOILS, AS COMPARED TO THE SLOW RATE OF BULK WATER MOVEMENT. THE RAPID EXCHANGE PREVENTS THE TRITIUM PULSE FROM OVERTAKING OLD WATER IN THE SOIL, AND FROM BEING OVERTAKEN BY NEW INPUTS OF WATER, AND CAN BE USED TO MEASURE EVAPOTRANSPIRATION. CLAY SOIL HAS MANY TORTUOUS PORE SPACES, HOWEVER, WHICH MAY INHIBIT FREE MOLECULAR DIFFUSION OF TRITIATED WATER. THE TWO-PHASE-RELEASE CURVE IN THE SOIL LITTER AND MINERAL SURFACE SUPPORTS THE VIEW THAT THERE ARE IN SOIL SOMEWHAT ISOLATED COMPARTMENTS OF IMMOBILE TRITIUM WHICH DO NOT HAVE COMPLETE, RAPID EXCHANGE WITH THE FREELY-MOVING BULK WATER.

H-3, RADIONUCLIDES, RAINFORESTS, LUQUILLO MOUNTAINS, PUERTO RICO, CYCLING, RESIDENCE TIME, SOILS, SOIL PROFILES, FORESTS, TROPICS, WATER

06377

R. C. THOMPSON AND O. L. HOLLIS

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS.

IN- BIOLOGY RESEARCH - ANNUAL REPORT, 1954. H. A. KORNBERG, ED. RICHLAND, WASH., HANFORD ATOMIC

PRODUCTS OPERATION, HW-35917. PP 87-93, 1955, 1 FIG., 1 TAB., 5 REFS.

U. S. AEC CONTRACT NO. W-31-109-ENG-52.

THE TISSUE DISTRIBUTION OF TRITIUM IN RATS WAS DETERMINED AS A FUNCTION OF TIME FOLLOWING ACUTE EXPOSURE TO TRITIUM GAS. RESULTS ARE COMPARED WITH SIMILAR DATA OBTAINED FOLLOWING ADMINISTRATION OF TRITIUM OXIDE. WHILE CERTAIN DIFFERENCES ARE NOTED IN THE PATTERN OF INCORPORATION AND RETENTION FOLLOWING THE TWO TYPES OF EXPOSURE, THESE DIFFERENCES ARE NOT SIGNIFICANT IN THE EVALUATION OF THE OVER-ALL HAZARD. (AUTHS.)
TISSUES, H-3, RADIONUCLIDES, GASES, RATS, ANIMALS, MAMMALS, RODENTS, WHOLE BODY EXPOSURE, RADIATION EXPOSURE

06378

R. C. THOMPSON AND J. E. BALLOU

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE.

IN- BIOLOGY RESEARCH - ANNUAL REPORT, 1954. H. A. KORNBERG, ED. RICHLAND, WASH., HANFORD ATOMIC

PRODUCTS OPERATION, HW-35917. PP 94-97, 1955, 1 FIG., 1 REF.

U. S. AEC CONTRACT NO. W-31-109-ENG-52.

RATS WERE EXPOSED TO A CONSTANT TRITIUM OXIDE ENVIRONMENT FROM CONCEPTION TO AGE SIX MONTHS.

RETENTION OF ORGANICALLY-BOUND TRITIUM IN THESE ANIMALS WAS FOLLOWED OVER A PERIOD OF 300 DAYS FOLLOWING THE EXPOSURE. COMPONENTS OF SLOW TURNOVER RATE (HALF-LIVES FROM 70-300 DAYS) CONSTITUTE A SIGNIFICANT FRACTION OF MOST TISSUES - FROM 40-70 PER CENT OF MUSCLE, BRAIN, PELT, FAT AND BONE. (AUTHS.)

H-3, RADIONUCLIDES, OXIDES, RATS, ANIMALS, MAMMALS, RODENTS, RADIATION EXPOSURE, DISTRIBUTION, WHOLE BODY EXPOSURE

06379

R. F. POSTER

TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS.

IN- BIOLOGY RESEARCH - ANNUAL REPORT, 1954. H. A. KORNBERG, ED. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-35917. PP 98-103, 1955, 2 FIGS., 2 REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

SALMON FRY, MAYFLY NYMPHS, AND SNAILS IMMERSSED IN WATER CONTAINING TRITIUM OXIDE INCORPORATED THE TRITIUM INTO THEIR BODY WATER AT A RATE CORRESPONDING TO A HALF-TIME OF ABOUT 15 MINUTES. IN AN UNCONTAMINATED ENVIRONMENT THE HALF-TIME FOR ELIMINATION VARIED FROM ABOUT 10 MINUTES FOR THE SNAILS TO ABOUT 24 MINUTES FOR THE SMALL FISH. (AUTH.)

H-3, RADIONUCLIDES, OXIDES, BODY WATER, SNAILS, ANIMALS, GASTROPODS, AQUATIC LIFE, MOLLUSKS, ABSORPTION

06380

R. C. THOMPSON AND J. B. BALLOU

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

EFFECT OF RADIATION ON THE INCORPORATION OF TRITIUM BY THE RAT.

IN- BIOLOGY RESEARCH - ANNUAL REPORT, 1954. H. A. KORNBERG, ED. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-35917. PP 104-107, 1955, 1 TAB., 2 REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

THE QUANTITY OF TRITIUM OXIDE ADMINISTERED TO RATS WAS SHOWN TO HAVE NO SIGNIFICANT EFFECT ON THE EXTENT TO WHICH SUCH TRITIUM IS INCORPORATED INTO TISSUE COMPOUNDS. (AUTHS.)

H-3, RADIONUCLIDES, OXIDES, RATS, ANIMALS, MAMMALS, RODENTS, TISSUES

06381

WILLIAM E. MARTIN, GILBERT E. RAINES, SANFORD G. BLOOM, AND ARTHUR A. LEVIN

BATTELLE MEMORIAL INSTITUTE, COLUMBUS LABORATORIES, COLUMBUS, OHIO

ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL.

IN- PROCEEDINGS FOR THE SYMPOSIUM ON PUBLIC HEALTH ASPECTS OF PEACEFUL USES OF NUCLEAR EXPLOSIVES.

M. W. CARTER, CHMN. LAS VEGAS, NEV., U. S. PUBLIC HEALTH SERVICE, SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, SWRHL-82. PP 401-435, 1969, 9 FIGS., 1 TAB., 29 REFS.

AVAILABILITY- CPSTI.

U.S. AEC CONTRACT NO. AT(26-1)-171.

RADIONUCLIDES PRODUCED BY NUCLEAR EXCAVATION DETONATIONS AND RELEASED TO THE ENVIRONMENT MAY ENTER A VARIETY OF BIOCHEMICAL CYCLES AND FOLLOW ESSENTIALLY THE SAME TRANSFER PATHWAYS AS THEIR STABLE-ELEMENT COUNTERPARTS. ESTIMATION OF POTENTIAL INTERNAL RADIATION DOSES TO INDIVIDUALS AND/OR POPULATIONS LIVING IN OR NEAR FALLOUT-CONTAMINATED AREAS REQUIRES ANALYSIS OF THE FOOD-CHAIN AND OTHER ECOLOGICAL PATHWAYS BY WHICH RADIONUCLIDES RELEASED TO THE ENVIRONMENT MAY BE RETURNED TO MAN. A GENERALIZED MATERIALS TRANSFER DIAGRAM, APPLICABLE TO THE FOREST, AGRICULTURAL, FRESHWATER AND MARINE ECOSYSTEMS PROVIDING FOOD AND WATER TO THE INDIGENOUS POPULATIONS OF PANAMA AND COLOMBIA IN REGIONS THAT COULD BE AFFECTED BY NUCLEAR EXCAVATION OF SEA-LEVEL CANAL BETWEEN THE ATLANTIC AND PACIFIC OCEANS, IS PRESENTED. TRANSFER MECHANISMS EFFECTING THE MOVEMENT OF STABLE ELEMENTS AND RADIONUCLIDES IN TERRESTRIAL ECOSYSTEMS ARE DISCUSSED, AND METHODS USED TO SIMULATE THESE PROCESSES BY MEANS OF MATHEMATICAL MODELS ARE DESCRIBED TO SHOW HOW INTAKE VALUES ARE CALCULATED FOR DIFFERENT RADIONUCLIDES IN THE MAJOR ECOLOGICAL PATHWAYS LEADING TO MAN. THESE DATA PROVIDE A BASIS FOR ESTIMATING POTENTIAL INTERNAL RADIATION DOSES FOR COMPARISON WITH THE RADIATION-PROTECTION CRITERIA ESTABLISHED BY RECOGNIZED AUTHORITIES; AND THIS, IN TURN, PROVIDES A BASIS FOR RECOMMENDING MEASURES TO INSURE THE RADIOLOGICAL SAFETY OF THE NUCLEAR OPERATION PLAN. (AUTHS.)

TRANSFER, ECOLOGY, RADIONUCLIDES, ECOSYSTEMS, PANAMA, COLOMBIA, MODELS, TERRESTRIAL ECOLOGY, MATHEMATICAL MODELS, SPECIFIC ACTIVITY, SR-90, H-3, TE-132, SR-89, RU-108, TE-127, SM-151, DOSE RATE

06382

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THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES.

IN- PROCEEDINGS FOR THE SYMPOSIUM ON PUBLIC HEALTH ASPECTS OF PEACEFUL USES OF NUCLEAR EXPLOSIVES.

M. W. CARTER, CHMN. LAS VEGAS, NEV., U. S. PUBLIC HEALTH SERVICE, SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, SWRHL-82. PP 436-459, 1969, 6 FIGS., 2 TABS., 19 REFS.

AVAILABILITY- CPSTI.

U.S. AEC CONTRACT NO. AT(40-1)-1833.

CONSIDERABLE PHYSICAL AND ISOTOPE DILUTION OCCURS IN THE SEA. TRITIUM, IN FALLOUT FROM UNDERGROUND NUCLEAR DETONATIONS, WOULD OCCUR MAINLY AS TRITIATED WATER AND WOULD BE DILUTED BY NORMAL WATER IN MARINE AREAS OF TURBULENCE. THIS RATIO FOR THE THERMONUCLEAR REACTION PRODUCT, TRITIUM, DIFFERS FROM THE OTHER RADIONUCLIDES BY INCREASING WITH SIZE OF DETONATION.

THE INTERACTIONS OF TRITIUM, P-32, CA-45, MN-54, SR-89, I-131, BA-140, AND W-185 WITH THE MARINE WATERS AND THEIR DISSOLVED SALTS, COLLOIDS, PARTICLES AND ORGANISMS ARE STRONGLY DEPENDENT UPON THE AREA OF INTRODUCTION. ONE OF THE ESTUARINE AREAS WHICH COULD RECEIVE SIGNIFICANT AMOUNTS OF HIGH SPECIFIC ACTIVITY OF THESE NUCLIDES IS THE GULF OF SAN MIGUEL. TRITIATED WATER IN FALLOUT WOULD RAPIDLY MIX WITH THE WATER IN THE GULF OF SAN MIGUEL AS A RESULT OF TURBULENCE FROM TIDAL CURRENTS. IF THE WORST POSSIBLE CASE DEPOSITED 50 % OF THE FALLOUT TRITIUM AND OTHER RADIONUCLIDES INTO THE GULF, ABOUT 6×10^{10} M3 OF WATER WOULD BE REQUIRED TO DILUTE THE TRITIUM TO MP5A. THE GULF OF SAN MIGUEL CONTAINS ABOUT 4 TIMES THIS AMOUNT OF WATER. THE WORST POSSIBLE CASE ASSUMES MAXIMUM VENTING OF TRITIUM FROM THE EXCAVATION WITH ALL OF THE TRITIUM AS WATER AND EQUAL DEPOSITION OF TRITIUM AND THE OTHER RADIONUCLIDES IN THE AREA OF FALLOUT. IT APPEARS THAT WITH THE POSSIBLE EXCEPTION OF TRITIUM THE RADIONUCLIDES FROM THE SIMULTANEOUS FIRING OF 5 1-MT EXPLOSIVES WOULD NOT PROVIDE SIGNIFICANT HAZARDS TO HUMANS IN THE GULF OF SAN MIGUEL AFTER 30 DAYS FOLLOWING DETONATION. H-3, RADIONUCLIDES, NUCLEAR EXPLOSIVES, EXPLOSIONS, PANAMA, FALLOUT, COLOMBIA, GULF OF SAN MIGUEL, ISOTOPE EXCHANGE, SPECIFIC ACTIVITY, DILUTION, WATER, SEDIMENTS, SEA WATER

06383

D. N. MCNEELIS AND R. G. PATZER

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EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS.

IN- PROCEEDINGS FOR THE SYMPOSIUM ON PUBLIC HEALTH ASPECTS OF PEACEFUL USES OF NUCLEAR EXPLOSIVES.

M. W. CARTER, CHMN. LAS VEGAS, NEV., U. S. PUBLIC HEALTH SERVICE, SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, SWRHL-82. PP 585-594, 1969, 13 REFS

AVAILABILITY- CPSTI.

THE RATE DETERMINATION OF SPECIFIC RADIONUCLIDES IN NATURAL GAS STIMULATED BY UNDERGROUND ENGINEERING APPLICATIONS IS BEING EXAMINED. AN EXPERIMENTAL PROGRAM, NOW IN ITS INITIAL STAGES, IS USING GAS ARTIFICIALLY LABELED WITH KRYPTON-85 AND TRITIUM UNDER SIMULATED DOMESTIC SITUATIONS.

THE FOLLOWING TOPICS ARE BEING INVESTIGATED IN STUDY- 1) THE CONCENTRATION OF THE RADIONUCLIDES IN A GAS-HEATED HOME. 2) THE BUILD-UP OF CONTAMINATION OF APPLIANCES IN THE KITCHEN ENVIRONMENT.

3) THE CONCENTRATION IN FOODS AS A FUNCTION OF RADIONUCLIDE, FOOD TYPE AND PREPARATION. 4)

THE MAXIMUM EXPOSURE PLAUSIBLE UNDER SPECIFIED CONDITIONS. (AUTHS.)

RADIONUCLIDES, H-3, NATURAL GAS, WHOLE BODY EXPOSURE, RADIATION EXPOSURE, FOODS, KR-85, RADIOACTIVE TRACERS, TRACERS, ENGINEERING, MAXIMUM PERMISSIBLE CONCENTRATION

06384

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APPROACHES TO THE CALCULATION OF LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL PURPOSES.

IN- PROCEEDINGS FOR THE SYMPOSIUM ON PUBLIC HEALTH ASPECTS OF PEACEFUL USES OF NUCLEAR EXPLOSIVES.

M. W. CARTER, CHMN. LAS VEGAS, NEV., U. S. PUBLIC HEALTH SERVICE, SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, SWRHL-82. PP 684-696, 1969, 5 TABS., 13 REFS.

AVAILABILITY- CPSTI.

THE LONG-TERM EQUILIBRIUM LEVELS OF TRITIUM, KRYPTON-85 AND CARBON-14 WHICH ARE ACCEPTABLE IN THE ENVIRONMENT HAVE BEEN ESTIMATED ON THE FOLLOWING PREMISES- 1) THE THREE ISOTOPES REACH THE ENVIRONMENT AND EQUILIBRATE THROUGHOUT IT IN PERIODS SHORTER THAN THEIR HALF LIVES, 2) NUCLEAR DETONATIONS AND NUCLEAR POWER CONSTITUTE THE DOMINANT SOURCES OF THESE ISOTOPES, 3) THE DOSES FROM

THESE THREE ISOTOPES ADD TO ONE ANOTHER AND TO THE DOSES FROM OTHER RADIOACTIVE ISOTOPES RELEASED TO THE ENVIRONMENT, AND 4) THE UNITED STATES, BY VIRTUE OF ITS POPULATION, IS ENTITLED TO 6% OF THE WORLD'S CAPACITY TO ACCEPT RADIOACTIVE WASTES. THESE PREMISES LEAD TO THE CONCLUSION THAT U.S. NUCLEAR DETONATIONS ARE LIMITED BY CARBON-14 TO 60 MEGATONS PER YEAR. THE CORRESPONDING LIMIT FOR U.S. NUCLEAR POWER APPEARS TO BE SET BY KRYPTON-85 AT 100,000 ELECTRICAL MEGAWATTS, POWER ARE NOT AVAILABLE. (AUTH.)
NUCLEAR EXPLOSIONS, EXPLOSIONS, KR-85, C-14, H-3, RADIONUCLIDES, MATHEMATICAL ANALYSIS, ANALYSIS, MAXIMUM PERMISSIBLE CONCENTRATION

06385

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STUDYING THE DIFFUSION OF AQUEOUS VAPOURS IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM.

IN- RADIOISOTOPES IN SCIENTIFIC RESEARCH. VOL. 2, R. C. EXTERMANN, ED. N.Y., PERGAMON PRESS.

PP 463-477, 1958, 8 FIGS., 1 TAB., 21 REFS.

A NEW METHOD FOR MEASURING THE DIFFUSION COEFFICIENT OF WATER VAPOUR THROUGH POLYMER MEMBRANES BY MEANS OF H-3-LABELED WATER WAS USED. IT HAS BEEN PROVED THAT THE ACTIVITY OF AQUEOUS VAPOURS CONTAINING H-3 CAN BE MEASURED BY INTRODUCING THEM DIRECTLY INTO THE COUNTER IN ADDITION TO THE USUAL ARGON-ALCOHOL FILLING, PROVIDED THE PARTIAL PRESSURE OF THE WATER VAPOUR DOES NOT EXCEED 2-3 MM HG. THIS METHOD OF MEASURING THE DIFFUSION COEFFICIENTS HAS THE FOLLOWING ADVANTAGES- (A) IT MAINTAINS THE CONDITIONS OF THE STATIONARY PROCESS OF DIFFUSION THROUGHOUT THE EXPERIMENTS, AND (B) IT INSURES COMPLETE EXTRACTION OF THE WATER VAPOURS HAVING DIFFUSED THROUGH THE MEMBRANE BY FREEZING THEM OUT WITH LIQUID NITROGEN DIRECTLY INTO THE COUNTER. THE ENTIRE VACUUM SYSTEM IS THEN WASHED WITH ALCOHOL VAPOUR WHICH IS IN TURN IS FROZEN INTO THE COUNTER AND ACTS AS A QUENCHING AGENT. THE COEFFICIENTS OF WATER VAPOUR DIFFUSION HAVE BEEN MEASURED IN POLYETHYLENE, POLYVINYLCHLORIDE, POLYTRIFLUOROCHLORO-ETHYLENE AND RUBBER, THE RESULTS AGREEING WELL WITH THE DATA SO FAR PUBLISHED. (AUTH.)

H-3, RADIONUCLIDES, RADIOACTIVE TRACERS, TRACERS, WATER, DIFFUSION, WATER VAPOR, GASES, ORGANIC COMPOUNDS, POLYMERS

06386

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COLUMBIA UNIVERSITY, LAMONT-DOHERTY GEOLOGICAL LABORATORY, PALISADES, N.Y.

LAKE TAHOE FALLOUT STUDY.

U. S. AEC REPORT, CU-2493-10-APP. D. 29 P., SEPT. 1969, 5 FIGS., 5 TABS., 8 REFS. 8 REFS.

U.S. AEC CONTRACT NO. AT(30-1)-2493.

LAKE TAHOE WATERS WERE MONITORED IN 1969 FOR THE PURPOSE OF ESTIMATING THE TOTAL FALLOUT DEPOSITION, CS-137, SR-90, AND TRITIUM CONTENT IN THE LAKE, THE MECHANISMS BY WHICH THE ISOTOPES REACH THE LAKE WATERS, SUCH AS PRECIPITATION AND RUNOFF FROM SOILS, WERE STUDIED. THE RESULTS WERE COMPARED WITH SIMILAR ESTIMATES FOR CRATER LAKE MADE IN 1967.

FALLOUT, LAKE TAHOE, NEVADA TEST SITE, RADIONUCLIDES, H-3, CS-137, SR-90, CRATER LAKE, PRECIPITATION (METEOROLOGICAL), LAKES, NEVADA, LAKE TAHOE, CALIFORNIA, UNITED STATES, RAINFALL, CONCENTRATION, WATER, SURFACE WATER

06387

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THE POTENTIAL USEFULNESS OF NATURAL TRITIUM.

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, VOL. 39, PP 245-247, 1953, 9 REFS.

U.S. AIR FORCE CONTRACT NO. AF 18(600)-564.

THE AGE OF THE WATER IN THE SENSE OF THE TIME ELAPSED SINCE PRECIPITATION MAY BE DETERMINABLE FROM THE SPECIFIC RADIOACTIVITY. FURTHER, AGRICULTURAL PRODUCTS SHOULD BE DATABLE BY THE H-3 CONTENT OF THEIR CONSTITUENT HYDROGEN, THE PRINCIPLE BEING THAT A CONSIDERABLE FRACTION OF THE HYDROGEN UTILIZED IN PLANT GROWTH ORIGINATES AS RAIN WATER AND IS INCORPORATED IN THE FIRST FEW MONTHS AFTER PRECIPITATION. A SECOND TYPE OF APPLICATION OCCURS IN THE IDENTIFICATION OF WATER SOURCES. THE MEAN STORAGE TIME OF RAIN OR SNOW WATER BEFORE IT APPEARS IN A GIVEN WATER SUPPLY SHOULD BE GIVEN DIRECTLY BY THE H-3 CONTENT OF THE GIVEN SUPPLY RELATIVE TO THAT OF AVERAGE RAIN IN THE REGION INVOLVED. IN THE FIELD OF METEOROLOGY SEVERAL POSSIBLE APPLICATIONS SEEM TO EXIST. THE H-3 PRODUCTION PROBABLY OCCURS AT A STEADY RATE INDEPENDENT OF THE WEATHER. IT SEEMS LIKELY THAT THE PRODUCTION RATE WILL VARY STRONGLY WITH ALTITUDE IN ABOUT THE SAME WAY THAT THE PRODUCTION OF NEUTRONS AND STARS BY THE COSMIC RAYS DOES. IT IS CLEAR THAT DEEP BODIES OF WATER WILL SO DILUTE RAIN AND SNOW WATER THAT THE H-3 CONTENT OF THE WATERS ON THE SURFACE OF THE SEAS WILL BE VERY SMALL. THEREFORE, CONTINENTAL WATER SOURCES SUCH AS RIVERS WILL BE DISTINGUISHABLE FROM THE SEA, AND IT SHOULD BE POSSIBLE TO DETERMINE WHETHER AN AIR MASS ACQUIRES ANY CONSIDERABLE AMOUNT OF MOISTURE FROM THE LAND MASSES AS IT TRAVELS OVER THEM.

H-3, RADIONUCLIDES, COSMIC RADIATION, METEOROLOGY, WATER, HYDROLOGY, RADIOACTIVE AGE DETERMINATION, WATER SUPPLY, PLANTS, TRACERS, RADIATION, PRODUCTION RATE

06388

F. T. HATCH, J. A. MAZIRAS, G. G. GREENWAY, J. J. KORANDA, AND J. L. MOORE

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50461. 30 P.,

JULY 1968, 8 FIGS., 8 TABS., 49 REFS.

KANGAROO RATS (DIPDOMYS MERRIAM) LIVING NEAR THE CRATER OF AN OLD NUCLEAR DETONATION WERE FOUND TO BE UNIFORMLY TRITIATED. THE LIFETIME CHRONIC DOSE TO ADULT ANIMALS WAS ESTIMATED TO BE 10 RAD FROM INTERNAL H-3 AND 10 RAD FROM PERSISTENT EXTERNAL BETA- AND GAMMA- EMITTING RADIONUCLIDES.

LIVER DNA WAS ISOLATED FROM THESE ANIMALS AND FROM CONTROL ANIMALS TRAPPED IN AREAS NOT ENRICHED IN RADIONUCLIDES. DNA FROM THE CRATER ANIMALS CONTAINED $6 \times 10(6)$ DPM/G HYDROGEN. IN COMPARISON WITH CONTROL DNA, THE CRATER DNA EXHIBITED THE FOLLOWING- MORE PROTEIN AND HISTONE, HIGHER MOLAR ABSORBANCE AT 260 MILLIMICRONS, LOWER THERMAL TRANSITION MAGNITUDE WITH A SMALL SECONDARY TRANSITION, LOWER MOLE FRACTION OF A PLUS T NUCLEOTIDES, INCREASED TEMPLATE ACTIVITY FOR 2 RNA POLYMERASES AND 1 DNA POLYMERASE, AND RELATIVE INCREASE IN ATP-GAMMA-P-32 INCORPORATION. THUS A RADIATION EFFECT AT A VERY LOW CHRONIC RADIATION EXPOSURE HAS BEEN DEMONSTRATED WITH BIOCHEMICAL TECHNIQUES.

LIVER, NUCLEIC ACIDS, DNA, H-3, RADIONUCLIDES, RATS, ANIMALS, MAMMALS, RODENTS, SEDAN, BIOCHEMISTRY, RADIATION EFFECTS, KANGAROO RATS, PLOWSHARE PROGRAM, NEVADA TEST SITE

06389

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RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT.

PEDIATRICS, VOL. 41 (SUPPL.), PP 174-195, 1968, 14 FIGS., 2 TABS., 24 REFS.

THE NATURE AND EFFECTS OF NATURAL AND ARTIFICIAL RADIOACTIVITY ON MAN ARE REVIEWED. THE NATURAL SOURCES OF IONIZING RADIATION ARE CONSIDERED IN TERMS OF THOSE OF COSMIC AND TERRESTRIAL ORIGIN.

THE DOSE MAN RECEIVES FROM COSMIC RAYS AT SEA LEVEL IS ABOUT 50 MR/YR, WHICH IS SLIGHTLY LESS THAN HALF THE DOSE RECEIVED FROM ALL NATURAL SOURCES. THE EFFECT OF ALTITUDE IS SHOWN. ALSO EXAMINED ARE THE TERRESTRIAL SOURCES OF NATURAL RADIOACTIVITY, THAT IS THE RADIOACTIVE ELEMENTS IN THE EARTH'S CRUST THAT EMIT PENETRATING RADIATION. AN INDIVIDUAL RECEIVES ABOUT 50 MREM/YR FROM THIS SOURCE.

ABOUT 25 MREM/YR IS DUE TO K-40 AND THE DAUGHTER PRODUCTS OF U AND TH THAT ARE ASSIMILATED FROM FOOD, WATER, OR AIR. MAN-MADE RADIONUCLIDES IN THE ENVIRONMENT ARE ENUMERATED AND THE FISSION PRODUCTS THAT ARE OF PRINCIPAL BIOLOGICAL SIGNIFICANCE ARE TABULATED. THE MANNER IN WHICH THE VARIOUS RADIONUCLIDES ARE PRODUCED, HOW THEY ENTER THE ENVIRONMENT, AND HOW THEY ARE ASSIMILATED INTO THE BODY ARE CONSIDERED. THE FALLOUT DOSE COMMITMENTS, CALCULATED AS WORLD AVERAGES, FROM ALL NUCLEAR EXPLOSIONS THROUGH 1962 ARE LISTED. THE BIOLOGICAL SIGNIFICANCE OF I-131, SR-90, SR-89,

AND CS-137 IS EXAMINED, AS WELL AS FUTURE PROSPECTS OF RADIO-CONTAMINATION OF THE BIOSPHERE FROM PEACEFUL USES OF ATOMIC ENERGY. (AUTH.)
 RADIOACTIVITY, RADIONUCLIDES, I-131, SR-90, SR-89, CS-137, FALLOUT, RADIATION, RADIATION EFFECTS, RADIATION DOSE, RADIATION EXPOSURE, H-3, ENVIRONMENTAL RADIATION, COSMIC RADIATION, MAN, MILK, NUCLEAR POWER, REVIEW, NATURAL RADIATION

06391

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 HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
 THE DESTRUCTION OF RIBOFLAVIN, BIOTIN AND FOLIC ACID IN VERY DILUTE AQUEOUS SOLUTION BY TRITIUM BETA RADIATION.

IN- BIOLOGY RESEARCH - ANNUAL REPORT 1953. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-30437. PP 50-56, JAN. 1954, 3 FIGS., 1 TAB., 13 REFS.
 U.S. AEC CONTRACT NO. W-31-109-ENG-52.

A STUDY WAS MADE OF THE RADIOSENSITIVITY OF DILUTE AQUEOUS SOLUTIONS OF BIOTIN, FOLIC ACID AND RIBOFLAVIN. THE SOLUTIONS, WITH A VITAMIN CONCENTRATION OF 10 MILLIMICRO G/ML, WERE PREPARED FROM SPECIALLY PURIFIED WATER, AND WERE SATURATED WITH EITHER OXYGEN OR NITROGEN. TRITIUM INCORPORATED IN THE SOLUTION IN THE FORM OF ITS OXIDE SERVED AS A SOURCE OF RADIATION. FOLIC ACID WAS FOUND TO BE THE MOST SENSITIVE TO RADIATION OF THE THREE TESTED. RADIATION DESTRUCTION OF BIOTIN WAS MOST SENSITIVE TO OXYGEN. THIS GAS CAUSED MORE RAPID DESTRUCTION BY RADIATION OF ALL THREE VITAMINS. (AUTHS.)

VITAMINS, H-3, RADIONUCLIDES, BETA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, RADIATION, BIOASSAY, RADIATION EFFECTS

06392

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HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA.

IN- BIOLOGY RESEARCH - ANNUAL REPORT 1953. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-30437. PP 71-72, JAN. 1954, 2 REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

THE MASS OF CELLS FORMED AT THE END OF THREE DAYS GROWTH IN THE PRESENCE OF H-3 OXIDE, AND AT THE END OF THREE DAYS SUBSEQUENT GROWTH IN SUBCULTURE IN NON-RADIOACTIVE NUTRIENT SOLUTION, WAS AN INVERSE FUNCTION OF THE AMOUNT OF IRRADIATION RECEIVED BY THE CELLS. THE NUMBER OF CHLORELLA CELLS FORMED IN THE PRESENCE OF H-3 OXIDE AND IN SUBSEQUENT SUBCULTURE IN ORGANIC AND INORGANIC NUTRIENT SOLUTION WAS ALSO AN INVERSE FUNCTION OF THE DOSE OF RADIATION RECEIVED BY THE CELLS.

CELL SIZE INCREASED AS A CONSEQUENCE OF IRRADIATION. VIABILITY OF CELLS AFTER A THREE-DAY GROWTH PERIOD IN THE PRESENCE OF H-3 OXIDE WAS AN INVERSE FUNCTION OF THE DOSE OF RADIATION RECEIVED BY THE CELLS. ASSAYS OF SELECTIONS FROM A SECTOR OF COLONIES OF IRRADIATED CHLORELLA FOR GROWTH RATES SHOWED THAT 25% OF THE CELLS SURVIVING IRRADIATION WERE CHANGED GENETICALLY. THE RESULTS SUGGEST THAT IN CHLORELLA THE PROCESS OF CELL DIVISION IS DAMAGED TO A GREATER EXTENT THAN THE PROCESSES INVOLVED IN GROWTH. THE MAJOR EFFECT OF IONIZING RADIATIONS OF CHLORELLA IS DEATH OF THE CELL. OXIDES, H-3, RADIONUCLIDES, CHLORELLA, ALGAE, CHLOROPHYTA, PLANTS, GROWTH, BIOASSAY, TRITIUM OXIDE

06393

J. W. PORTER AND H. J. KNAUSS

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA.

IN- BIOLOGY RESEARCH - ANNUAL REPORT 1953. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-30437. PP 73-76, JAN. 1954, 1 TAB., 1 REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

CHLORELLA PREVIOUSLY GROWN IN INORGANIC MEDIA CONTAINING H-3 OXIDE WERE SUBCULTURED IN MEDIA CONTAINING C-14-LABELED BICARBONATE. INCORPORATION OF C-14 INTO FATTY ACIDS WAS MARKEDLY INCREASED IN THE PREVIOUSLY IRRADIATED CELLS. NUCLEIC ACID SYNTHESIS WAS ALSO INCREASED, AND CHLOROPHYLL A SYNTHESIS DECREASED. FURTHER EXPERIMENTS WITH C-14-LABELED ACETATE INDICATE CERTAIN SIMILARITIES IN THE METABOLIC BEHAVIOR OF PREVIOUSLY IRRADIATED ALGAE AND ALGAE GROWING IN ORGANIC MEDIA. (AUTHS.) OXIDES, H-3, RADIONUCLIDES, CHLORELLA, ALGAE, CHLOROPHYTA, PLANTS, C-14, METABOLISM, BIOCHEMISTRY, TRITIUM OXIDE

06394

J. W. PORTER

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE.

IN- BIOLOGY RESEARCH - ANNUAL REPORT 1953. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-30437. PP 77-78, JAN. 1954, 1 TAB., 3 REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

FOLLOWING GROWTH IN MEDIA CONTAINING DEUTERIUM AND H-3 OXIDES, ALGAL CELLS WERE SEPARATED INTO METHANOL INSOLUBLE, METHANOL SOLUBLE, ETHER SOLUBLE, AND METHANOL SOLUBLE-ETHER INSOLUBLE FRACTIONS. RESULTS OF TRITIUM, DEUTERIUM, AND TOTAL HYDROGEN ANALYSES ON THESE FRACTIONS ARE INTERPRETED IN TERMS OF ISOTOPE EFFECT. THE EXTENT OF TRITIUM INCORPORATION IS SLIGHTLY, BUT SIGNIFICANTLY LOWER THAN DEUTERIUM INCORPORATION, EXCEPT IN THE CASE OF THE METHANOL SOLUBLE, ETHER INSOLUBLE FRACTION, WHERE THE DIFFERENCE IS NOT STATISTICALLY SIGNIFICANT. BOTH TRITIUM AND DEUTERIUM ARE INCORPORATED TO A MARKEDLY LESSER DEGREE THAN PROTIIUM, THE MAGNITUDE OF THE EFFECT VARYING SIGNIFICANTLY BETWEEN THE VARIOUS FRACTIONS.

CHLORELLA, ALGAE, CHLOROPHYTA, PLANTS, HYDROGEN, GASES, ISOTOPE EXCHANGE, H-3, RADIONUCLIDES, DEUTERIUM, NONMETALS, METABOLISM

06395

G. M. SMITH, O. L. HOLLIS, AND R. C. THOMPSON

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS.

IN- BIOLOGY RESEARCH - ANNUAL REPORT 1953. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-30437. PP 81-86, JAN. 1954, 1 FIG., 1 TAB., 3 REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

PROCEDURES WERE DEVISED FOR EXPOSING RATS TO RELATIVELY HIGH CONCENTRATIONS OF H-3 GAS, UNDER CONDITIONS WHICH MINIMIZE THE POSSIBILITY OF H-3 OXIDE FORMATION IN THE ENVIRONMENT. PRELIMINARY DATA ON DISTRIBUTION OF H-3 WITHIN THE ANIMAL FOLLOWING SUCH EXPOSURES ARE PRESENTED. (AUTHS.)

H-3, RADIONUCLIDES, GASES, RATS, ANIMALS, MAMMALS, RODENTS, OXIDES, ABSORPTION, METABOLISM, DISTRIBUTION, TRITIATED WATER, TISSUES, ORGANS

06396

R. C. THOMPSON AND J. E. BALLOU

HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.

DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE.

IN- BIOLOGY RESEARCH - ANNUAL REPORT 1953. RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-30437. PP 87-92, JAN. 1954, 1 TAB., 2 REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

MATURE FEMALE RATS WERE MAINTAINED ON A CONSTANT, H-3 OXIDE-LABELED DRINKING WATER DIET FOR FOUR MONTHS. SIX WEEKS AFTER BEING PLACED ON THIS REGIMEN THEY WERE MATED AND THE YOUNG WEANED TO THE SAME H-3-LABELED DRINKING WATER. THE ORIGINAL FEMALES ARE BEING SACRIFICED AT INTERVALS FOLLOWING REMOVAL FROM THE H-3 OXIDE REGIMEN. THE SECOND GENERATION ANIMALS WERE REMOVED FROM THE H-3 OXIDE REGIMEN AT THE AGE OF SIX MONTHS AND ARE BEING SACRIFICED AT INTERVALS. AVERAGE H-3 CONCENTRATION IN TISSUE-BOUND HYDROGEN IN BOTH GROUPS OF ANIMALS AT THE END OF THE EXPOSURE PERIOD WAS APPROXIMATELY 20% OF THE H-3 CONCENTRATION IN BODY WATER HYDROGEN. (AUTHS.)

DISTRIBUTION, METABOLISM, CONCENTRATION, ORGANS, TISSUES, TRITIUM OXIDE

06397

W. P. LIBBY

TRITIUM IN NATURE.

JOURNAL OF THE WASHINGTON ACADEMY OF SCIENCES, VOL. 45, NO. 10, PP 301-314, 1955, 3 TABS., 18 REFS.

RESULTS OF ASSAYS OF NATURAL WATERS OF THE EARTH FOR H-3 PRODUCED BY COSMIC RADIATION ARE REPORTED, INCLUDING THOSE FROM RAINS AND SNOWS FROM CHICAGO AND OTHER AREAS, THE MISSISSIPPI RIVER AND OTHER RIVERS, LAKE MICHIGAN AND OTHER LAKES, HOT SPRINGS, WELL WATER, VINTAGE WINES, SEA WATER, AND CISTERNS AND OTHER SOURCES. CALCULATIONS ARE THEN GIVEN FOR LOCAL H-3 PRODUCTION RATES AND EXPECTED OCEAN RAIN AND SURFACE WATER H-3 CONTENTS. IT IS CONCLUDED THAT THE PRESENT RATE OF COSMIC-RAY GENERATION (IN 1955) IS NO DIFFERENT FROM WHAT IT HAD BEEN OVER THE PAST 18 YRS. H-3, RADIONUCLIDES, COSMIC RADIATION, PRECIPITATION (METEOROLOGICAL), WATER, LAKES, OCEANS, RIVERS, SURFACE WATERS, WINES, BEVERAGES, SEA WATER, CHICAGO, ILLINOIS

06398

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HYDROLOGIC CONSIDERATIONS.

IN- SAFETY INVOLVING DETONATION OF NUCLEAR DEVICES. PREPARED BY REYNOLDS ELECTRICAL AND ENGINEERING CO., INC. LAS VEGAS, NEV., U. S. ATOMIC ENERGY COMMISSION, NEVADA OPERATIONS OFFICE, NVO-28. PP 5-16, MAY 1966, 8 FIGS.

THIS DISCUSSION REVIEWS THE TYPES AND KINDS OF GEOLOGIC AND HYDROLOGIC INFORMATION REQUIRED FOR EVALUATION OF POTENTIAL CONTAMINATION OF GROUND AND SURFACE WATERS, WITH SOME OF THE LIMITATIONS ON SUCH INFORMATION AND SOME OF THE DIFFICULT PROBLEMS REMAINING TO BE SOLVED. IN GENERAL, TOPOGRAPHIC, GEOLOGIC AND HYDROLOGIC DATA WILL BE NEEDED IN VARYING DETAIL OVER AN EXTENSIVE AREA FOR ANY PROPOSED NUCLEAR EXPLOSION. MOST OF THIS DATA WILL HAVE MULTIPLE USES IN THE SAFETY, TECHNICAL AND SUPPORT PROGRAMS. TO ILLUSTRATE THE MIXING AND SPREADING OF CONTAMINATED GROUND WATER UNDER NATURAL CONDITIONS, THE DISTRIBUTION H-3 IN GROUND WATER AT THE NATIONAL REACTOR TESTING STATION IS SHOWN. STARTING ABOUT 10 YEARS AGO, H-3 HAS BEEN INTRODUCED INTO THE GROUND WATER THROUGH THE IDAHO CHEMICAL PROCESSING PLANT (ICPP) RADIOACTIVE WASTE DISPOSAL WELL AND HAS NOW MOVED ABOUT 5 MILES DOWN GRADIENT FROM THE POINT OF INJECTION. THE AVERAGE RATE OF GROUND-WATER FLOW BASED ON REGIONAL HYDROLOGIC DATA IS ABOUT 7 FEET PER DAY, IN THE SOUTHWEST DIRECTION. THE MOST SIGNIFICANT POINT SHOWN IS THE SPREAD OF H-3 OVER AN ARC OF ABOUT 90 DEGREES IN TRAVELING A FLOW DISTANCE OF A FEW MILES. OBVIOUSLY, LAMINAR OR TUBE-LIKE FLOW DOES HOLD TRUE IN THESE ROCKS. A SECOND POINT IS THE WIDE VARIATION IN GROUND-WATER FLOW RATES BETWEEN THE INPUT DISPOSAL WELL AND THE OBSERVATION WELLS. THE FLOW RATE AVERAGES 20 FEET PER DAY WITHIN A DISTANCE OF A QUARTER OF A MILE FROM THE INPUT WELL, BUT CAN BE AS HIGH AS 120 FEET PER DAY. THIRD, THESE DATA CLEARLY INDICATE THE IMPORTANCE OF THE LONGITUDINAL AND TRANSVERSE SPREADING OF CONTAMINATED WATER AND THE CARE THAT MUST BE EXERCISED IN USING THE AVERAGE RATE OF FLOW OF GROUND WATER IN PREDICTING THE MOVEMENT OF RADIONUCLIDE. THIS CASE CLEARLY ILLUSTRATES A MAJOR PROBLEM OF HOW CONTAMINATED WATER SPREADS AND BECOMES DILUTED IN MOVING AWAY FROM THE POINT OF INITIAL CONTAMINATION.

H-3, RADIONUCLIDES, GROUND WATER, WATER, HYDROLOGY, SAFETY, GNOME, NUCLEAR EXPLOSIONS, CONTAMINATION, EXPLOSIONS, NEVADA TEST SITE, NATIONAL REACTOR TESTING STATION, FLOW-SHARE PROGRAM, TRACERS, DISTRIBUTION

06399

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GROUND WATER CONTAMINATION PREDICTIONS.

IN- SAFETY INVOLVING DETONATION OF NUCLEAR DEVICES. U. S. ATOMIC ENERGY COMMISSION, NEVADA OPERATIONS OFFICE, NVO-28. P 17-28, 1966, 8 FIGS.

RADIOACTIVE CONTAMINATION OF GROUND WATER FROM CONTROLLED WASTE DISPOSAL PRACTICES HAS BEEN OBSERVED AT SEVERAL LOCATIONS. AT HANFORD, H-3 CONCENTRATION IN GROUND WATER EXCEEDS MAXIMUM PERMISSIBLE CONCENTRATIONS FOR DRINKING WATER FOR CONTINUOUS MONOCCUPATIONAL CONSUMPTION (1×10^{-6} MINUS 3) MICRO C/ML AT DISTANCES UP TO 6 MILES FROM WASTE DISCHARGE POINTS. H-3 IS THE IMPORTANT RADIOACTIVE PRODUCT OF FUSION REACTIONS. IT IS REPORTED IN THE UNCLASSIFIED LITERATURE THAT ABOUT 5,000 CURIES OF H-3 ARE FORMED PER KILOTON OF FUSION YIELD. CONSIDERATION OF SORPTION DOES NOT APPLY IN THE CASE OF H-3. ESTIMATED CONCENTRATIONS OF H-3 ARE LISTED FOR A 90% FUSION DEVICE IN A RUBBLE CHIMNEY FILLED WITH WATER. THESE DATA SUGGEST THAT CONCENTRATIONS MAY RESULT SEVERAL ORDERS OF MAGNITUDE GREATER THAN MPC (1×10^{-6} MINUS 3) MICRO C/ML FROM UNDERGROUND DETONATION OF FUSION DEVICES. GROUND WATER, WATER, CONTAMINATION, SAFETY, NUCLEAR EXPLOSIONS, H-3, EXPLOSIONS, RADIONUCLIDES, CONCENTRATION, CANALS, HYDROLOGY

06400

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NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM. II.

JOURNAL OF INORGANIC AND NUCLEAR CHEMISTRY, VOL. 1, PP 75-91, 1955, 3 TABS., 15 REFS.

U.S. AIR RESEARCH AND DEVELOPMENT COMMAND, CONTRACT NO. AF 18(600)-564.

THE MEASUREMENT OF THE ABUNDANCE OF H-3 IN NATURAL WATERS HAS BEEN CONTINUED DURING THE LAST EIGHTEEN MONTHS. THE METHOD USED CONSISTS OF THE ELECTROLYTIC CONCENTRATION OF THE WATER SAMPLES, THE MEASUREMENT OF THE DEUTERIUM CONCENTRATION IN THE FINAL PRODUCT FROM WHICH THE ENRICHMENT FACTOR FOR ANY H-3 PRESENT IN THE ORIGINAL SAMPLES CAN BE CALCULATED, FOLLOWED BY THE DETERMINATION OF H-3 CONTENT OF THE CONCENTRATE BY PLACING IT AS GASEOUS HYDROGEN IN A GEIGER COUNTER. IT IS SHOWN THAT THE DATA ARE IN AGREEMENT WITH AN AVERAGE COSMIC-RAY PRODUCTION RATE OF ABOUT 0.14 H-3 ATOMS/CM(2)/SEC OF THE EARTH'S SURFACE, ON THE ASSUMPTION THAT ESSENTIALLY ALL OF THIS H-3 PASSES INTO WATER WITHOUT DECAYING INTO HELIUM AND THE TRITIATED WATER IS PRECIPITATED OUT AND GOES INTO THE SEA. THE AVERAGE H-3 CONTENT OF OCEANIC RAIN APPEARS TO BE ABOUT 6 H-3 ATOM PER 10 (18) HYDROGEN ATOMS, WHEREAS THE CONTINENTAL RAINS HAVE HIGHER ASSAYS. THE GREAT MISSISSIPPI VALLEY SHOWS ABOUT 6. THE WESTERN COAST OF EUROPE RUNS ABOUT 2.5. THE OCEAN SURFACE WATERS HAVE ABOUT 1/5 THE H-3 CONTENT OF OCEAN RAIN. THIS MEANS THAT THE OCEAN MIXES TO ONLY AN AVERAGE DEPTH OF 100 METRES IN 18 YEARS--THE AVERAGE LIFE OF H-3. SEVERAL HOT SPRINGS HAVE BEEN TESTED AND MOST FOUND TO BE RAIN WATER. TESTS ON WELLS AGREED WITH EXPECTATIONS. AS YET THERE IS NO SIGNIFICANT METEOROLOGICAL UNDERSTANDING OF THE ERRATIC FLUCTUATIONS IN THE H-3 ASSAYS FOR RAIN IN A GIVEN LOCATION. (AUTHS.) H-3, RADIONUCLIDES, DISTRIBUTION, COSMIC RADIATION, IONIZING RADIATION, RADIATION, WATER, RAINFALL, PRECIPITATION (METEOROLOGICAL), CHICAGO, ILLINOIS, METEOROLOGY, WINES, BEVERAGES, SURFACE WATER

06401

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SIMPLIFIED SOLID-STATE SCINTILLATION COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN BIOLOGICAL AND ORGANIC MATERIALS.

ANALYTICAL CHEMISTRY, VOL. 39, PP 1911-1912, 1967, 2 FIGS., 2 TABS., 8 REFS.

CONSIDERABLE ATTENTION HAS BEEN DIRECTED IN RECENT YEARS TOWARD THE DEVELOPMENT OF SIMPLE TECHNIQUES OF PAPER STRIP OR DISK COUNTING FOR RADIO-ASSAY OF BIOLOGICAL AND ORGANIC MATERIALS. THE PRESENT PAPER DESCRIBES A SIMPLE METHOD OF IMPREGNATING THE SAMPLE ON GLASS MICROFIBER MEDIUM, WETTING WITH A FEW DROPS OF USUAL SCINTILLATION FLUID, SEALING IN A PLASTIC BAG AND COUNTING IN A LUCITE HOLDER (PLASTIC VIAL). THE PROCEDURE HAS SIMPLIFIED RADIOASSAY OF A VARIETY OF BIOLOGICAL AND ORGANIC MATERIALS IN THE FOLLOWING WAYS, VIZ., LOW BACKGROUND COUNTS AND HIGH EFFICIENCY; NEED OF SCINTILLATION FLUID; GLASS VIALS NOT NEEDED; EASIER DISPOSAL OF THE BAG AND ITS CONTENTS; EVEN PAPER STRIPS, MILLIPORE- OR GLASS-FIBER DISKS-BASED MATERIALS EASILY COUNTED, AND OVERALL LOW COST. H-3, C-14, CL-36, RADIOCHEMICAL ANALYSIS, RADIONUCLIDES, ANALYSIS, CHEMICAL ANALYSIS, TECHNIQUES, SCINTILLATION COUNTING, TRITIATED COMPOUNDS

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AND W P LIBBY, UNIVERSITY OF CHICAGO, CHICAGO, ILL

TRITIUM IN NATURE

SCIENCE, VOL 113, PP 1-2, 1951, 1 FIG, 1 TAB, 6 REFS

THE POSSIBILITY THAT THE HELIUM-3 ISOTOPE FOUND IN ATMOSPHERIC HELIUM HAS ITS ORIGIN IN THE PRODUCTION OF H-3 BY THE ACTION OF THE COSMIC RADIATION ON THE AIR HAS LED US TO EXAMINE SURFACE WATERS FOR H-3. THE PROCEDURE HAS BEEN TO MEASURE HIGHLY CONCENTRATED HEAVY WATER SAMPLES THAT HAVE BEEN PRODUCED FROM SURFACE WATERS AND SHOULD CONTAIN ANY NATURAL H-3 AT ABOUT ONE MILLIONFOLD HIGHER CONCENTRATION THAN THE ORIGINAL WATER. ALL THE MEASUREMENTS COMPLETED TO DATE HAVE BEEN MADE ON NORWEGIAN WATERS, ALTHOUGH MEASUREMENTS ON WATERS FROM OTHER LOCALITIES ARE IN PROGRESS.

THE RESULTS, ALTHOUGH OF LIMITED ACCURACY AND APPLICABLE TO ONLY ONE LOCALITY, MAKE IT SEEM RATHER PROBABLE THAT A CONSIDERABLE FRACTION, IF NOT ALL, OF THE HELIUM-3 OBSERVED IN ATMOSPHERIC HELIUM DOES INDEED HAVE ITS ORIGIN IN THE COSMIC RAY-PRODUCED H-3. IT IS WORTH WHILE TO POINT OUT THAT WITH A CONCENTRATION OF 3.1 (MINUS 18) G/G PROTUM, COSMIC H-3 IS BY FAR THE RAREST ATOMIC SPECIES DISCOVERED IN NATURE. IT THUS HAS NO MILITARY SIGNIFICANCE. H-3, RADIONUCLIDES, SURFACE WATERS, NORWAY, COSMIC RADIATION, HE-3, IONIZING RADIATION, RADIATION, WATER, DEUTERIUM, GASES, SCANDINAVIA

06404

THOMAS E SMITH AND ROBERT T TAYLOR

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF

INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS

LIVERMORE, CALIF, UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50781 25 P,

NOV 1969, 4 FIGS, 72 REFS

A LITERATURE SURVEY OF REACTIONS INVOLVED IN SOME OF THE MAJOR PATHWAYS OF CARBOHYDRATE METABOLISM REVEALS THAT IN TRITIATED WATER AT LEAST 7 OF THE REACTIONS OF THE GLYCOLYTIC SCHEME WOULD BE EXPECTED TO INCORPORATE H-3 INTO STABLE CARBON-HYDROGEN BONDS IN INTERMEDIARY PRODUCTS. SOME OF THE PRODUCTS WOULD EVENTUALLY LEAD TO THE BIOSYNTHESIS OF LIPIDS, PROTEINS, AND INTO THE ONE-CARBON UNITS. IN A SIMILAR MANNER, OTHER PROTEIN CONSTITUENTS, COENZYMES, AND PROSTHETIC GROUPS SUCH AS PORPHYRINS WOULD BECOME LABELED WITH H-3 THROUGH THE REACTIONS OF THE TRICARBOXYLIC ACID CYCLE. SIMILARLY THE LITERATURE CLEARLY INDICATES THAT IN MAMMALIAN TISSUES, AS WELL AS BACTERIA, ONE-CARBON UNIT METABOLISM WILL CONTRIBUTE H-3 TO THE CELLULAR LIPID AND NUCLEIC ACID CONSTITUENTS. THE CENTRAL METABOLITE INVOLVED IN ONE-CARBON METABOLISM IS N-10-METHYLENETETRAHYDROPOLATE, WHICH DRIVES ITS METHYLENE GROUP FROM THE BETA-CARBON ATOM OF SERINE. THE SPECIFIC ENZYMIC STEPS INVOLVED IN THE DIVERGENT METABOLISM OF N-5, N-10-METHYLENETETRAHYDROPOLATE ARE DISCUSSED, AND SEVERAL POSSIBLE COUNTER-MEASURES ARE SUGGESTED THAT MIGHT ELIMINATE H-3 FROM THE PATHWAYS OF ONE-CARBON METABOLISM. (FROM AUTHS ABSTR)

H-3, RADIONUCLIDES, WATER, METABOLISM, BIOCHEMISTRY, CARBOHYDRATES, LIPIDS, NUCLEIC ACIDS, ANIMALS, PATHWAYS, ESCHERICHIA, BACTERIA, MICROORGANISMS, ORGANIC COMPOUNDS, TRITIATED WATER

06406

KUNIHICO KIGOSHI AND YOSHIO TOMIKURA

GAKUSHUIN UNIVERSITY, DEPT OF PHYSICS AND CHEMISTRY, TOSHIMA-KU, TOKYO, JAPAN

TRITIUM AND CARBON-14 IN THE TREE RINGS

BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN, VOL 34(11), PP 1738-1739, 1961, 1 TAB, 5 REFS

THIS NOTE PRESENTS THE RESULTS OF MEASUREMENTS OF THE CONCENTRATION OF CR-14 AND H-3 IN THE TREE RINGS OF RECENT YEARS. THE PURPOSE OF THE MEASUREMENTS WAS TO OBTAIN THE ANNUAL MEAN CONCENTRATION OF THE ATMOSPHERIC CR-14 AND OF THE H-3 IN THE RAIN WATER. THE ANNUAL MEAN CONCENTRATION OF H-3 IN THE RAIN WATER DECREASES AFTER 1959 WITH THE HALF LIFE OF ABOUT 1 YEAR. SINCE THE H-3 IN THE TROPOSPHERE HAS A SHORT MEAN LIFE, THE AMOUNT OF H-3 IN THE TROPOSPHERE MAY BE PROPORTIONAL TO THE AMOUNT OF SUPPLY OF H-3 TO THE TROPOSPHERE FROM THE STRATOSPHERE. THE OBSERVED DECREASE OF H-3 AFTER 1959 AND THE ANNUAL VARIATION OF CR-14 AFTER 1959 SUGGEST A STRATOSPHERIC RESIDENCE TIME OF 1 OR 2 YEARS FOR THESE NUCLIDES.

H-3, RADIONUCLIDES, C-14, TREES, PLANTS, RAINWATER, WATER, TROPOSPHERE, ATMOSPHERE (TERRESTRIAL), STRATOSPHERE, GROWTH RINGS, CONCENTRATION

06418

R V OSBORNE

ATOMIC ENERGY OF CANADA LTD, CHALK RIVER NUCLEAR LABORATORIES, CHALK RIVER, ONTARIO, CANADA

PERFORMANCE OF AN AUTOMATIC ANALYSER FOR TRITIUM IN URINE

HEALTH PHYSICS, VOL 18, NO 1, PP 87-89, 1970, 2 FIGS, 3 REFS

AN AUTOMATIC ANALYSER FOR H-3 IN URINE CAN MEASURE THE CONCENTRATION OF H-3 IN A URINE SAMPLE SUFFICIENTLY, RAPIDLY AND ACCURATELY TO ALLOW THE EXPOSED WORKERS TO ASSOCIATE H-3 HAZARDS WITH PARTICULAR LOCATIONS, HABITS OR JOBS. A LIQUID SCINTILLATION COUNTER IS PROGRAMMED TO MIX A SAMPLE OF URINE (VOIDED DIRECTLY INTO A NORMAL RECEPTACLE) WITH LIQUID SCINTILLATOR IN A CONTROLLED RATIO AND THEN TRANSFER THE MIXTURE TO A CELL FOR CONVENTIONAL COINCIDENCE COUNTING. PERIODIC PROCESSING OF STANDARD AND BACKGROUND SAMPLES IS AUTOMATIC. SAMPLE PROCESSING TAKES 50 SEC AND NEEDS NO CONTROL BY THE USER (EXCEPT STARTING). MEASUREMENTS MAY BE MADE EVERY 2 MIN. THE MINIMUM SAMPLE VOLUME IS 15 CM(3) (0.3 CM(3) IS ACTUALLY COUNTED) AND THE COUNTING RATE FROM A SAMPLE WITH 1 MICROCI/L EQUALS THAT FROM THE BACKGROUND.

SCINTILLATION COUNTER, RADIATION EXPOSURE, WHOLE BODY EXPOSURE, H-3, EQUIPMENT, INSTRUMENTS, URINE, RADIONUCLIDES, MAN

06419

AASE HVIDT AND SIGURD O NIELSEN

A HVIDT, CARLSBERG LABORATORY, CHEMICAL DEPT, COPENHAGEN, S O NIELSEN, DANISH ATOMIC ENERGY

COMMISSION, RESEARCH ESTABLISHMENT, CHEMISTRY DEPT, RISØ, DENMARK

HYDROGEN EXCHANGE IN PROTEINS

ADVANCES IN PROTEIN CHEMISTRY, VOL 21, PP 287-386, 1966, 19 FIGS, 9 TABS, 222 REFS

THREE IMPORTANT RESULTS HAVE EMERGED FROM STUDIES OF HYDROGEN EXCHANGE IN AQUEOUS SOLUTIONS OF PROTEINS, PEPTIDES, AND MODEL COMPOUNDS- (1) OLIGOPEPTIDES AND RANDOMLY COILED POLYPEPTIDES EXCHANGE LABILE HYDROGENS FAST, WHEREAS MOST OF THE PROTEINS INVESTIGATED EXCHANGE A NUMBER OF THEIR LABILE HYDROGEN ATOMS VERY SLOWLY. (2) THE EXCHANGE RATES OF SLOWLY EXCHANGING HYDROGEN ATOMS IN PROTEINS ARE USUALLY STRONGLY DEPENDENT ON THE ACIDITY AND TEMPERATURE, EVEN UNDER EXPERIMENTAL CONDITIONS WHERE NO CHANGES HAVE BEEN OBSERVED IN THE STABILITY OF THE PROTEIN CONFORMATIONS. PRESENT THE RATE OF HYDROGEN EXCHANGE OFTEN INCREASES MARKEDLY ON DENATURATION. (3) THE EXCHANGE KINETICS OF OLIGOPEPTIDES AND RANDOMLY COILED POLYPEPTIDES HAVE BEEN DETERMINED AND ARE BELIEVED TO BE FAIRLY WELL UNDERSTOOD IN AQUEOUS SOLUTION. ON THE BASIS OF THESE FINDINGS AND OTHERS, A GENERAL MECHANISM OF HYDROGEN EXCHANGE IN PROTEINS HAS BEEN FORMULATED (SUCH A MECHANISM WAS FIRST USED BY LINDERSTROM-LANG), WHICH IS CHARACTERIZED BY THE ASSUMPTION THAT A LABILE HYDROGEN ATOM BOUND IN A PROTEIN MOLECULE CAN EXCHANGE ONLY WHEN IT IS FULLY EXPOSED TO BULK AQUEOUS SOLVENT. THE EXCHANGE PROCEEDS THEN WITH A RATE CONSTANT K(3), WHICH IS ESSENTIALLY THE SAME AS THAT FOUND WITH OLIGOPEPTIDES AND RANDOMLY COILED POLYPEPTIDES UNDER THE SAME EXPERIMENTAL CONDITIONS. (FROM AUTHS SUM)

PROTEINS, NITROGEN COMPOUNDS, ORGANIC COMPOUNDS, POLYMERS, GASES, H-3, POLYPEPTIDES, ISOTOPE EXCHANGE, HYDROGEN, RADIONUCLIDES, WATER

06420

VICTORIA CARR AND HANS J ACHE

VIRGINIA POLYTECHNIC INSTITUTE, DEPT OF CHEMISTRY, BLACKSBURG, VA

ON THE MECHANISM OF THE SELF-INDUCED EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC HYDROCARBONS

RADIATION RESEARCH, VOL 41, NO 1, PP 15-23, 1970, 3 FIGS, 2 TABS, 23 REFS

THE SELF-INDUCED EXCHANGE OF H-3 WITH DIHALOGENATED ALIPHATIC HYDROCARBONS, 1-CHLORO-3-iodopropane AND 1-CHLORO-3-BROMOPROPANE, HAS BEEN STUDIED AS A FUNCTION OF EXPOSURE TIME AND H-3 CONCENTRATION

THE IODINE, BROMINE, CHLORINE, AND HYDROGEN EXCHANGE RATES WERE FOUND TO BE A FUNCTION OF THE BOND DISSOCIATION ENERGIES INVOLVED. SINCE THE WEAKER BONDED ATOM IS PREFERENTIALLY EXCHANGED, THIS METHOD CAN BE USED FOR THE PREPARATION OF H-3-LABELLED COMPOUNDS OF HIGHEST SPECIFIC ACTIVITY. TAGGING, CHEMICAL REACTIONS, EXCHANGE REACTIONS, ORGANIC COMPOUNDS, HYDROCARBONS, RADIONUCLIDES, H-3, TRITIATED COMPOUNDS

06423

ATOMIC ENERGY OF CANADA LTD.

ACTIVITIES OF AECL IN THE FIELDS OF BIOLOGY, HEALTH PHYSICS AND MEDICINE.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-2107. 33 P., 1964

VARIOUS STUDIES BY THE ENVIRONMENTAL RESEARCH BRANCH ARE DISCUSSED. THE MOVEMENT OF H-3 THROUGH GROUND WATER INTO THE CELLULOSE OF TREES WAS FIRST DETERMINED IN 1958 AND REACHED A PEAK CONCENTRATION IN 1962. TRITIUM IS ALSO BEING USED TO STUDY WATER MOVEMENT, EVAPORATION FROM LAKES, AND WATER CYCLING IN NATURE.

MEDICINE, BIOLOGY, DOSIMETRY, ENVIRONMENTAL RADIATION, RADIATION, H-3, SAFETY, RADIONUCLIDES, TREES, GROWTH RINGS, PLANTS, SR-90

06424

ERNEST A. PINSON

UNIVERSITY OF CALIFORNIA, LOS ALAMOS, N. MEX.

THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS.

LOS ALAMOS, N. MEX., UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LA-1218. 28 P.,

1951, 13 FIGS., 2 TABS.

A STUDY WAS MADE OF THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF H-3 IN MAN AND LABORATORY ANIMALS FOLLOWING EXPOSURE TO H-3 IN THE FORM OF HT AND HTO. BOTH RESPIRATORY AND ORAL ROUTES OF EXPOSURE WERE STUDIED. THE RESULTS INDICATED THAT THE MAJOR PORTION OF H-3 INSPIRED AS HTO WAS ABSORBED IN THE BODY. VERY LITTLE H-3 INSPIRED AS HT WAS ABSORBED. BOTH RAT AND MAN OXIDIZED SMALL AMOUNTS OF HT TO HTO. FROM THE RESULTS OBTAINED IT WOULD APPEAR THAT FOR MAN THE MAXIMUM PERMISSIBLE LEVEL OF H-3 AS HTO IN INSPIRED AIR SHOULD BE $6 \times 10^{(MINUS 5)}$ MICROCI/CC. BASED ON 0.3 REP/WK AND A 40 HR/WK EXPOSURE. THE MAXIMUM PERMISSIBLE LEVEL OF H-3 AS HT IN INSPIRED AIR SHOULD BE 0.6 MICROCI/CC. THE PRINCIPAL DILUTION VOLUME OF H-3 AS HTO IN THE BODY OF BOTH MAN AND ANIMALS ON SHORT EXPOSURE WAS FOUND TO BE THE TOTAL BODY WATER. CHRONIC EXPOSURE OF MICE TO HTO OVER A PERIOD OF 5 MONTHS RESULTED IN H-3 BECOMING DISTRIBUTED IN THE BODY WATER AND IN SOME UNDETERMINED BODY CONSTITUENTS OTHER THAN WATER WHICH HAD A BIOLOGICAL HALF-TIME LONGER THAN ONE WEEK. THE STUDY FURTHER SHOWED THAT H-3 CONCENTRATION AS HTO IN ALL THE BODY FLUIDS AND FLUID EXCRETA OF MAN WAS ESSENTIALLY THE SAME. THE RATE OF ABSORPTION OF HTO THROUGH THE GASTRO-INTESTINAL TRACT WAS LINEAR WITH TIME WHEN GIVEN AMOUNTS WERE INGESTED. H-3 EXCRETION AS HTO FROM THE BODY FLUIDS OF MAN AND ANIMALS WAS EXPONENTIAL WITH WATER TURNOVER. ABSORPTION OF HTO THROUGH THE SKIN OF MAN WAS STUDIED BY IMMERSION OF THE HAND AND FOREARM IN WATER CONTAINING HTO. ABSORPTION THROUGH THE SKIN WAS FOUND TO BE APPROXIMATELY EQUAL TO THE RATE OF WATER LOSS BY INSENSIBLE PERSPIRATION. (FROM AUTH. ABSTR.)

H-3, RADIONUCLIDES, ABSORPTION, DISTRIBUTION, EXCRETION, MAN, WATER, ANIMALS, GASES, MAXIMUM PERMISSIBLE CONCENTRATION, SWEAT, HALF-LIFE, BIOLOGICAL HALF-LIFE, RATS, RODENTS, URINE, MICE

06425

J. W. MCMAHON

ATOMIC ENERGY OF CANADA LIMITED, CHALK RIVER, ONTARIO, CANADA

THE DISPERSION OF TRITIUM IN PERCH LAKE.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-1869. 17 P., 1964, 6 FIGS., 8 REFS.

A WATER SURVEY HAS SHOWN THAT TRITIATED WATER FROM THE LIQUID DISPOSAL AREA ON CRNL PROPERTY IS EVENLY DISPERSED THROUGHOUT A SMALL NATURAL RESERVOIR - PERCH LAKE. THE AVERAGE H-3 CONCENTRATION IN THE LAKE (1.14 MICROCI/L), OVER AN 8-MONTH PERIOD, REPRESENTED ONLY 3.8% OF THE OCCUPATIONAL 168 HOUR (MPC)W. COMPLETE MIXING OF WATER OCCURS IN THE LAKE UNDER BOTH WINTER AND SUMMER CONDITIONS. THE PRESENCE OF A SUBTERRANEAN SPRING IN PERCH LAKE AND VARIATIONS IN H-3 CONCENTRATION IN PERCH LAKE SWAMP AND MARGINAL AREAS OF THE LAKE ARE DISCUSSED. (AUTH.)

H-3, RADIONUCLIDES, PERCH LAKE, CANADA, WATER, LAKES, ONTARIO, MIXING, CONCENTRATION, TRACERS

06426

ZBIGNIEW KALETA AND ANDRZEJ NIKULSKI

ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH. [THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM.]

ACTA PHYSIOLOGICA POLONICA, VOL. 19(3), PP 445-451, 1968, 1 FIG., 13 REFS. (ENGL. SUM.)

POSSIBILITIES OF USING H-3 WATER IN COMPLEX STUDIES FOR LABELING PROTEINS, GLUCOSE, FATTY ACIDS AND TOTAL CHOLESTEROL IN THE BLOOD SERUM HAVE BEEN INVESTIGATED. EXPERIMENTS WERE CARRIED OUT WITH 20 MALE RABBITS, IN WHICH A SINGLE DOSE OF 500 MICROCURIES OF H-3 WAS INJECTED INTRAPERITONEALLY. BLOOD SAMPLES WERE OBTAINED TWICE BEFORE ADMINISTERING THE HTO AND EVERY DAY FOR 8-14 DAYS AFTER ADMINISTRATION. PARALLEL ASSAYS OF THE STUDIED SERUM COMPONENTS WERE MADE COLORIMETRICALLY AND BY MEASURING RADIOACTIVITY. RADIOACTIVITY OF H-3 WAS MEASURED BY MEANS OF LIQUID SCINTILLATORS. H-3 ADMINISTERED IN THE FORM OF H-3 WATER WAS FOUND TO BE INCORPORATED INTO CARBOHYDRATES, PROTEINS AND LIPIDS. MAXIMUM ACTIVITY OF SERUM GLUCOSE AND PROTEINS WAS OBSERVED ON THE FIRST DAY AFTER ADMINISTRATION OF THE LABELED COMPOUND, FATTY ACIDS AFTER 10 DAYS, AND CHOLESTEROL AFTER 12 DAYS.

THE RESULTS INDICATE THAT ADMINISTRATION OF H-3 IN THE FORM OF HTO IS A USEFUL METHOD FOR STUDYING THE METABOLISM OF FUNDAMENTAL BODY COMPONENTS. AN ADVANTAGE OF THE METHOD IS THE RELATIVELY SLIGHT EXPOSURE OF THE EXPERIMENTAL OBJECT SINCE H-3 HAS A SHORT HALF-LIFE AND IS QUICKLY EXCRETED FROM THE BODY. (AUTHS.)

H-3, RADIONUCLIDES, WATER, METABOLISM, TAGGING, BLOOD, PROTEINS, FATTY ACIDS, NITROGEN COMPOUNDS, ORGANIC COMPOUNDS, POLYMERS, GLUCOSE, CARBOHYDRATES, RABBITS, RODENTS, MAMMALS, ANIMALS

06427

P. K. LALA

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, DIV. OF BIOLOGY AND HEALTH PHYSICS, CHALK RIVER, ONTARIO, CANADA

MEASUREMENT OF S PERIOD IN GROWING CELL POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE LABELING WITH H-3- AND C-14-THYMIDINE.

EXPERIMENTAL CELL RESEARCH, VOL. 50, PP 459-463, 1968, 2 FIGS., 1 TAB., 4 REFS.

A GRAPHIC ANALYSIS IS PRESENTED FOR THE MEASUREMENT OF S PERIOD IN ASYNCHRONOUSLY GROWING CELL POPULATIONS BY DOUBLE LABELING H-3 AND C-14-THYMIDINE. IT IS APPLICABLE TO GROWTH CHARACTERISTICS ANYWHERE BETWEEN AN EXPONENTIAL AND A NEAR STEADY STATE. MEASUREMENTS MADE ON EHRlich ASCITES TUMORS OF TWO DIFFERENT AGES AGREE WELL WITH THE VALUES OBTAINED BY THE LABELED MITOSSES TECHNIQUE. (AUTH.)

H-3, C-14, RADIONUCLIDES, TAGGING, GROWTH, DATA ANALYSIS, ANALYSIS, THYMIDINE, AMINO ACIDS, NITROGEN COMPOUNDS, ORGANIC COMPOUNDS, CELLS, DNA, TRITIATED COMPOUNDS

06428

ANNE DE G. LOW-BEER, THORNTON W. SARGENT, STEPHEN R. WRIGHT, AND BARBARA C. BUCKLEY

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, BERKELEY, CALIF.

REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969.

BERKELEY, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-19354. 11 P., 1969, 6 FIGS., 2 TABS., 7 REFS.

U.S. AEC CONTRACT NO. W-7405-ENG-48.

THE RECORD PRESENTED IN THIS REPORT IS EVIDENCE OF THE HIGH DEGREE OF SAFETY FROM RADIOLOGICAL CONTAMINATION OF LRL-BERKELEY. THE INCIDENCE OF EXPOSURE IN THE SAMPLING OF WORKERS SELECTED FOR BIOASSAY IS 12% FOR ALPHA ACTIVITY, 74% FOR BETA ACTIVITY, AND 14% FOR GAMMA ACTIVITY. IN NO CASE HAS THE ACTIVITY EXCEEDED 0.01 MP88, EVEN FOLLOWING INCIDENTS IN WHICH A HIGH POTENTIAL FOR CONTAMINATION OF INDIVIDUALS EXISTS. OUR 1968 REPORT ESTABLISHED THAT LOW-LEVEL BETA CONTAMINATION IS PREVALENT

AMONG THE GENERAL POPULATION AND THEREFORE SHOULD PROBABLY NOT BE REGARDED AS DUE TO INDUSTRIAL EXPOSURE WHEN FOUND IN THE ROUTINE BIOASSAY PROGRAM. THE CURRENT STUDY ON ALPHA CONTAMINATION IN THE GENERAL POPULATION WILL ASSIST US TO EVALUATE THE SIGNIFICANCE OF THOSE POSITIVE ALPHA DETERMINATIONS THAT ARE FOUND IN ROUTINE ANALYSES ON LRL WORKERS. CONTINUING DEVELOPMENT OF THE X-RAY COUNTING SYSTEM PROVIDES A NEW AND INCREASINGLY EFFICIENT MEANS OF ASSESSING THE CONTAMINATION OF WOUNDS WITH RADIOACTIVE NUCLIDES. NEW METHODS FOR PREPARATION OF ALPHA SOURCES, AND THE INTRODUCTION OF AN ALPHA SPECTROMETRY SYSTEM, INSURE THE ACCURATE IDENTIFICATION OF ALL NUCLIDES IN THE ACTINIDE SERIES.

SAFETY, WHOLE BODY EXPOSURE, RADIATION EXPOSURE, RADIONUCLIDES, BETA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, RADIATION, ALPHA RADIATION, GAMMA RADIATION, BIOASSAY, H-3, MAN, P-32, C-14, TB-180, ZN-65, CM-244, CO-57, CO-58, CM-294, WATER, AM-241

06429

U S ATOMIC ENERGY COMMISSION, NEVADA OPERATIONS OFFICE, LAS VEGAS, NEV
PROJECT RULISON, POST-SHOT PLANS AND EVALUATIONS
LAS VEGAS, NEV, U S ATOMIC ENERGY COMMISSION, NEVADA OPERATIONS OFFICE, PNE-R-13 (NVO-61) 66
P, DEC 1969, 13 FIGS, 8 TABS, 5 REFS

PROJECT RULISON POST-SHOT PLANS AND EVALUATIONS ARE DISCUSSED AND INCLUDE PHYSICAL CHARACTERISTICS OF THE RULISON CAVITY, PRESSURE AND TEMPERATURE EXPECTED IN THE CAVITY, AMOUNT, NATURE AND DISTRIBUTION OF RADIOACTIVITY IN THE CAVITY, REENTRY PLAN, RADIOACTIVE SPECIES WHICH MAY BE ENCOUNTERED DURING REENTRY, PUBLIC SAFETY CONSIDERATIONS ARISING FROM RELEASE OF RADIOACTIVITY, PROCEDURES TO ASSURE PUBLIC SAFETY, AND THE RADIOLOGICAL SAFETY PLAN. MAXIMUM HYPOTHETICAL ACCIDENTS AND ECOLOGICAL CONSIDERATIONS ARE DISCUSSED IN THE APPENDICES.

NUCLEAR EXPLOSIONS, EXPLOSIONS, SAFETY, RULISON, COLORADO, NATURAL GAS, UNITED STATES, UNDERGROUND NUCLEAR EXPLOSIONS, FLOWSHARE PROGRAM, COLORADO, KR-85, XE-133, AR-37, C-14, H-3, RADIONUCLIDES, MAPS, VEGETATION, ANIMALS, LAND USE

06430

ROY C THOMPSON AND JOHN E BALLOU
GENERAL ELECTRIC CO, RADIOLOGICAL SCIENCES DEPT, RICHLAND, WASH
STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT
JOURNAL OF BIOLOGICAL CHEMISTRY, VOL 206, PP 883-888, 1954, 2 TABS, 11 REFS

U S AEC CONTRACT NO W-31-109-ENG-52

PROTEIN AND LIPID FRACTIONS WERE SEPARATED FROM VARIOUS TISSUES OF RATS SACRIFICED 4 MONTHS AND 8 MONTHS AFTER ADMINISTRATION OF H-3 OXIDE. THE CONCENTRATION OF BOUND H-3 IN THESE COMPOUND FRACTIONS WAS DETERMINED, AND THE BIOLOGICAL HALF LIFE OF THE H-3-LABELED COMPONENTS OF THE FRACTION WAS ESTIMATED FROM THE DECREASE IN H-3 CONTENT BETWEEN THE 2 SACRIFICE PERIODS. COLLAGEN FRACTIONS EXHIBITED HALF LIVES OF 300 DAYS OR LONGER, AND LIPID FRACTIONS WERE OBTAINED WITH HALF-LIVES AS LONG AS 300 DAYS. THE HIGHEST CONCENTRATION OF BOUND H-3, 4 MONTHS AFTER H-3 OXIDE ADMINISTRATION, WAS FOUND IN BRAIN LIPIDS (AUTHS)

H-3, RADIONUCLIDES, RADIOACTIVE TRACERS, TRACERS, RATS, ANIMALS, MAMMALS, RODENTS, LIPIDS, PROTEINS, NITROGEN COMPOUNDS, OXIDES, ORGANIC COMPOUNDS, HALF-LIFE, BIOLOGICAL HALF-LIFE, CONCENTRATION, METABOLISM

06431

ROY C THOMPSON AND JOHN E BALLOU
GENERAL ELECTRIC CO, DEPT OF RADIOLOGICAL SCIENCES, RICHLAND, WASH
STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM
JOURNAL OF BIOLOGICAL CHEMISTRY, VOL 206, PP 101-107, 1954, 2 TABS, 17 REFS

U S AEC CONTRACT NO W-31-109-ENG-52

32 RATS WERE GIVEN H-3 OXIDE AND DEUTERIUM OXIDE IN A CONSTANT RATIO OVER A 5-WEEK PERIOD. THE ANIMALS WERE THEN SACRIFICED IN GROUPS OVER A 2-MONTH PERIOD, AND THE RATIO OF BOUND H-3 TO BOUND DEUTERIUM DETERMINED IN VARIOUS TISSUES. FAT, BRAIN, AND MUSCLE SHOWED A SIGNIFICANT SLIGHT PREFERENTIAL INCORPORATION OF DEUTERIUM. THERE WAS NO CONSISTENT TREND OF CHANGE IN RATIOS FOR A GIVEN TISSUE OVER THE 60-DAY PERIOD (AUTHS)

H-3, RADIONUCLIDES, RADIOACTIVE TRACERS, TRACERS, DEUTERIUM, ANIMALS, NONMETALS, RATS, MAMMALS, RODENTS, OXIDES, RETENTION, METABOLISM

06432

ROY C THOMPSON
GENERAL ELECTRIC CO, DEPT OF RADIOLOGICAL SCIENCES, RICHLAND, WASH
STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT
JOURNAL OF BIOLOGICAL CHEMISTRY, VOL 200, PP 731-743, 1953, 2 FIGS, 3 TABS, 8 REFS

U S AEC CONTRACT NO W-31-109-ENG-52

H-3 OXIDE WAS ADMINISTERED INTRAPERITONEALLY TO 40 RATS. THE ANIMALS WERE SACRIFICED AT INTERVALS FOLLOWING ADMINISTRATION AND H-3 OF BODY WATER AND TISSUE-BOUND H-3 WERE DETERMINED IN VARIOUS ORGAN AND TISSUE SAMPLES. THE BIOLOGICAL HALF-LIFE OF BODY WATER IN THE RAT WAS FOUND TO BE 3.3 DAYS. ALL ORGANS AND TISSUES SAMPLED (EXCEPT BLOOD) CONTAIN COMPONENTS WHICH LOSE TISSUE-BOUND H-3 WITH A BIOLOGICAL HALF-LIFE OF 80 DAYS OR LONGER. EVIDENCE IS PRESENTED WHICH SUGGESTS STRONGLY THAT THESE LONG-LIVED COMPONENTS REPRESENT A SIGNIFICANT PROPORTION OF THE TOTAL ANIMAL TISSUE (AUTH)

H-3, RADIONUCLIDES, RADIOACTIVE TRACERS, TRACERS, RATS, ANIMALS, MAMMALS, RODENTS, OXIDES, TISSUES, HALF-LIFE, BIOLOGICAL HALF-LIFE, METABOLISM, TISSUES, ORGANS, RETENTION, CONCENTRATION

06433

ROY C THOMPSON
GENERAL ELECTRIC CO, HANFORD ATOMIC PRODUCTION OPERATION, RICHLAND, WASH
BIOLOGICAL APPLICATIONS OF TRITIUM
NUCLEONICS, VOL 12(9), PP 31-35, 1959, 2 TABS, 93 REFS

THIS REVIEW DESCRIBES HOW H-3 HAS BEEN APPLIED AS- 1) HYDROGEN TRACER IN BIOLOGICAL SYSTEMS IT PROVIDES A WIDER DETECTION RANGE THAN IS POSSIBLE WITH DEUTERIUM. 2) IONIZING-RADIATION SOURCE IN AN AQUEOUS SYSTEM, RADIATION FIELD IS UNIFORM. HANDLING PRECAUTIONS ARE NOT SERIOUS. THE PRESENT REVIEW COVERS REPORTS PUBLISHED THROUGH THE YEAR 1953.

H-3, RADIONUCLIDES, RADIOACTIVE TRACERS, TRACERS, BETA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, RADIATION, REVIEW, ANIMALS, METABOLISM, HALF-LIFE, BIOLOGICAL HALF-LIFE, TISSUES, BIOLOGICAL EFFECTIVENESS, PLANTS

06434

K TABGDER AND W SCHEUERMANN
K TABGDER, HANNOVER TECHNICAL UNIVERSITY, INSTITUTE FOR RADIOBIOLOGY, W SCHEUERMANN, GESELLSCHAFT FUER STRAHLENFORSCHUNG M B H, MUNICH, GERMANY
ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELED THYMIDINE
RADIATION RESEARCH, VOL 41(1), PP 206-216, 1970, 6 FIGS, 2 TABS, 21 REFS

THE BETA-DECAY OF THE H-3, WHICH IS INCORPORATED INTO THE DNA OF THE MERISTEMATIC TISSUE OF VICIA PABA IN THE FORM OF H-3-THYMIDINE, LEADS TO A CHRONIC RADIATION LOAD IN THE CELLS AND CELL STRUCTURES, SPECIFICALLY IN THE CELL NUCLEI. UNDER SPECIAL CONDITIONS (HOMOGENEOUS DISTRIBUTION OF THE H-3, SPHERIC SHAPE OF THE CELL NUCLEUS, UNIFORM DENSITY OF THE NUCLEUS) THE MEAN ABSORBED DOSE IN THE CELL NUCLEUS WAS CALCULATED IN DEPENDENCE OF THE RADIUS OF THE CELL NUCLEUS. FOR THIS SPECIFIC CALCULATION, METHODS FROM THE LITERATURE WERE USED AND THEIR RESULTS WERE DISCUSSED COMPARATIVELY.

AS 2 OF THE MENTIONED METHODS ARE ALSO APPLICABLE FOR HIGHER ENERGETIC BETA-EMITTERS, ALSO THE MEAN ABSORBED DOSE IN A C-14-LABELED NUCLEUS WAS CALCULATED. FOR A STUDY OF RADIATION-INDUCED CHROMOSOME ABERRATIONS A CULTURE OF SEEDLINGS LASTING SEVERAL HOURS ON TAP WATER IS NECESSARY AFTER THE END OF THE PULSE LABELING. THE TIME SLOPE OF THE TOTAL ACTIVITY IN THE MERISTEM AND THE H-3-DNA-ACTIVITY

IN THE CELL NUCLEUS WAS FOUND WITH HELP OF THE LIQUID SCINTILLATION TECHNIQUE (THE INCORPORATION OF THYMIDINE INTO THE DNA SHOULD, IN THE CASE OF NO ISOTOPIC-EFFECT BETWEEN H-3-TDR AND C-14-TDR, BE THE SAME FOR BOTH LABELED SUBSTANCES) IN THIS CONNECTION ESPECIALLY A POSSIBLE ADDITIONALLY ABSORBED DOSE OF THE LABELED CELL NUCLEUS FROM SOLUBLE H-3-TDR WAS OF INTEREST, WHICH IS INCORPORATED INTO THE CYTOPLASM ONLY TEMPORARILY DURING THE PULSE LABELING, AND EXCORPORATED DURING THE FOLLOWING CULTURE ON TAP WATER THE ESTIMATION SHOWED THAT THIS ADDITIONAL DOSE IS NEGLIGIBLE IN RESPECT TO THE DOSE CAUSED BY THE H-3-DNA-ACTIVITY HOWEVER, THIS RESULT IS NOT TRANSFERABLE TO HIGHER ENERGY BETA-EMITTERS THAN H-3 (AUTHS)

H-3, RADIONUCLIDES, CELL NUCLEUS, MATHEMATICAL ANALYSIS, ANALYSIS, TAGGING, C-14, THYMIDINE, NUCLEIC ACIDS, BETA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, RADIATION, DNA, VICIA, LEGUMINOSAE, PLANTS, FLOWERING PLANTS, ABSORPTION COEFFICIENTS, TRITIATED COMPOUNDS, ROOTS, TISSUES, CELLS

06435

GRANT N SMITH AND RICHARD O MARSHALL
GENERAL ELECTRIC CO, HANFORD WORKS, RADIOLOGICAL SCIENCES, DEPT, RICHLAND, WASH
FIXATION OF MOLECULAR TRITIUM BY BACTERIAL SUSPENSIONS
ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, VOL 39, PP 395-405, 1952, 4 FIGS, 2 TABS, 12 REPS
U S AEC CONTRACT NO W-31-109-ENG-52

H-3 CAN BE OXIDIZED TO WATER APPARENTLY THROUGH THE ACTIVITY OF THE ENZYME HYDROGENASE OXIDATION OF H-3 CAN BE CARRIED OUT AT VERY LOW PARTIAL PRESSURES, E G 0.002 ML/L AIR IT HAS BEEN POSSIBLE TO DEMONSTRATE THIS BECAUSE OF THE EXTREMELY SENSITIVE METHOD PROVIDED BY H-3 THE FACT THAT STREPTOCOCCUS FAECALIS NOT KNOWN TO CONTAIN HYDROGENASE, WAS DEMONSTRATED TO FIX H-3 SUGGESTS THE POSSIBILITY THAT THE METHOD MAY BE USEFUL FOR DETECTING LOW CONCENTRATIONS OF HYDROGENASE
H-3, RADIONUCLIDES, CHEMICAL REACTIONS, ENZYMES, BACTERIA, PLANTS, MICROORGANISMS, BIOLOGICAL FIXATION, HYDROGENATION, ESCHERICHIA, STREPTOCOCCUS, LACTOBACILLUS, PROTEUS, AZOTOBACTER

06436

IRWIN A ROSE AND SIDNEY V RIEDER
YALE UNIVERSITY, SCHOOL OF MEDICINE, DEPT OF BIOCHEMISTRY, NEW HAVEN, CONN
THE MECHANISM OF ACTION OF MUSCLE ALDOLASE
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, VOL 77, PP 5764-5765, 1955, 1 TAB, 4 REPS

TO ESTABLISH THE REACTION MECHANISM, EXPERIMENTS WERE PERFORMED IN WHICH DHAP, HDP, OR A MIXTURE OF DHAP AND HDP WAS INCUBATED WITH 8 TIMES RECRYSTALLIZED RABBIT MUSCLE ALDOLASE (FREE OF TRIOSE-PHOSPHATE ISOMERASE) IN THE PRESENCE OF TRITIATED WATER AND THE REACTION WAS STOPPED BY THE ADDITION OF AG PLUS IONS IT MAY BE CONCLUDED FROM THE NON-LABELING OF THE HDP THAT THE ENZYME IS ABLE TO DISTINGUISH BETWEEN THE 2 HYDROGENS ON THE CARBINOL CARBON OF DHAP
ENZYMES, H-3, RADIONUCLIDES, WATER, CHEMICAL REACTIONS, TAGGING, TRITIATED WATER, MUSCLE, TISSUES, RABBITS, RODENTS, MAMMALS, ANIMALS, BIOCHEMISTRY

06437

SIDNEY V RIEDER AND IRWIN A ROSE
YALE UNIVERSITY, DEPT OF BIOCHEMISTRY, NEW HAVEN, CONN
THE MECHANISM OF THE TRIOSEPHOSPHATE ISOMERASE REACTION
JOURNAL OF BIOLOGICAL CHEMISTRY, VOL 234, PP 1007-1010, 1959, 5 TABS, 17 REPS

THE INTERCONVERSION OF DIHYDROXYACETONE PHOSPHATE AND GLYCERALDEHYDE 3-PHOSPHATE IN TRITIATED WATER BY THE ENZYME TRIOSEPHOSPHATE ISOMERASE RESULTS IN THE FORMATION OF A MONOTRITIATED DIHYDROXYACETONE PHOSPHATE THE STERIC SPECIFICITY OF THIS LABELING WAS COMPARED WITH THAT FOUND WITH MUSCLE ALDOLASE THE DATA RULE OUT A HYDRIDE SHIFT AS A MECHANISM FOR THIS ISOMERIZATION, AND SUPPORT THE FORMATION OF AN ENOLATE ANION BOUND TO THE ENZYME (AUTHS)
CHEMICAL REACTIONS, H-3, RADIONUCLIDES, WATER, ENZYMES, TAGGING, TRITIATED WATER, ISOMERIZATION, BIOCHEMISTRY, TISSUES, MUSCLE, ANIMALS

06438

W C REINIG AND E L ALBENESIU
E I DU PONT DE NEMOURS AND CO, SAVANNAH RIVER PLANT, AIKEN, S C
CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION JOURNAL, VOL 24, PP 276-283, 1963, 3 FIGS, 3 TABS, 13 REPS
U S AEC CONTRACT NO AT(07-2)-1

THE CONTROL OF HAZARDS RESULTING FROM H-3 PRODUCTION AT THE SAVANNAH RIVER PLANT ARE DESCRIBED CONTROLS IN USE INCLUDE RADIOLOGICAL ENGINEERING TECHNIQUES FOLLOWED BY TRAINING OF OPERATING PERSONNEL, USE OF PROTECTIVE CLOTHING, CONTROL OF SURFACE AND AIR CONTAMINATION, BIOASSAY, AND ENVIRONMENTAL MONITORING DETAILS INDICATING THE EFFECTIVENESS OF THESE CONTROL MEASURES ARE GIVEN (AUTHS)

H-3, RADIONUCLIDES, MEDICINE, SAFETY, CONTAMINATION, BIOASSAY, MAN, ENVIRONMENTAL RADIATION, RADIATION, CLOTHING, OXIDES, MONITORING, WATER, RIVERS, RAINWATER, ENVIRONMENTS, MILK, EFFLUENTS, NUCLEAR POWER, DECONTAMINATION

06439

S W PORTER, JR AND L A SLABACK, JR
ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE, BETHESDA, MD
MEASUREMENT OF TRITIUM SURFACE CONTAMINATION
BETHESDA, MD, DEFENSE ATOMIC SUPPORT AGENCY, ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE, AFPRR-SP-66-13
18 P, 1966, 3 FIGS, 4 TABS, 14 REPS
AVAILABILITY- AD-640-810

THIS PAPER DESCRIBES SEVERAL METHODS AND TECHNIQUES FOR MEASURING H-3 SURFACE CONTAMINATION IN REACTOR, ACCELERATOR, AND H-3 OXIDE ENVIRONMENTS THE PROBLEMS ASSOCIATED WITH THE PRESENTLY USED METHOD OF WINDOWLESS FLOW PROPORTIONAL COUNTING ARE DISCUSSED A NEW METHOD OF UTILIZING SPECIAL MEMBRANE SWIPE PAPERS COUNTED IN A LIQUID SCINTILLATION SYSTEM IS DESCRIBED THE DATA FROM SINGLE CHANNEL AND CHANNEL RATIO LIQUID SCINTILLATION COUNTING TECHNIQUES, VARIOUS SWIPE PAPERS AND VARIOUS H-3 ABSORPTION AGENTS ARE PRESENTED WITH A STATISTICAL ANALYSIS VARIOUS FACTORS AFFECTING LIQUID SCINTILLATING COUNTING OF INORGANIC H-3 ARE DISCUSSED THIS METHOD GIVES APPROX 20% EFFICIENCY WITH GOOD STATISTICS VERSUS 1% EFFICIENCY AND VERY POOR COUNTING STATISTICS FOR FLOW PROPORTIONAL COUNTING OF H-3 ON SWIPE PAPERS FROM THE STANDPOINT OF OVERALL COUNTING EFFICIENCY, REPRODUCIBILITY OF COUNTS, CASE OF COUNTING, AND PHYSICAL STRENGTH, THE VINYL MEMBRANE VM-1 PAPER COUNTED IN DIOXANE HAS BEEN FOUND TO BE BEST FOR GENERAL H-3 SURFACE CONTAMINATION MEASUREMENTS (AUTHS)
H-3, RADIONUCLIDES, OXIDES, MEASUREMENT, SCINTILLATION COUNTING, CONTAMINATION, TECHNIQUES

06440

D G JACOBS
OAK RIDGE NATIONAL LABORATORY, HEALTH PHYSICS, DIV, NUCLEAR SAFETY INFORMATION CENTER, OAK RIDGE, TENN
SOURCES OF TRITIUM AND ITS BEHAVIOR UPON RELEASE TO THE ENVIRONMENT
U S ATOMIC ENERGY COMMISSION, DIVISION OF TECHNICAL INFORMATION, TID-24635 95 P, 1966, 4 FIGS, 9 TABS, CA 470 REPS

IN A NUCLEAR POWER ECONOMY BASED ON FISSION REACTORS, H-3 POSES NO SEVERE WORLDWIDE POPULATION EXPOSURE PROBLEMS HOWEVER, H-3 WILL CONTINUE TO POSE HANDLING PROBLEMS AND LOCAL PROBLEMS OF ENVIRONMENTAL CONTAMINATION ESTIMATES OF PROJECTED RELEASES OF ACTIVITY FROM FUEL-PROCESSING PLANTS SUGGEST THAT H-3 WILL NOT BE AS CRITICAL A FACTOR IN LIMITING THE SIZE OF PLANTS AS WILL KR-85 THIS DOES NOT MEAN THAT H-3 SHOULD BE RELEASED PROMISCUOUSLY FROM SUCH A PLANT, PROTECTIVE ACTION IS ALWAYS WARRANTED WHEN SUCH ACTION CAN RESULT IN A SIGNIFICANT REDUCTION OF PERSONNEL OR POPULATION EXPOSURE AT A REASONABLE COST ADEQUATE APPROXIMATIONS CAN BE MADE FOR THE CAPACITY OF A GIVEN LOCAL ENVIRONMENT FOR ACCEPTING H-3, AND ESTIMATES CAN BE MADE FOR A NUMBER OF CONDITIONS OR, BETTER YET, FOR A TIME-AVERAGED CONDITION THAT HAS BEEN ACTUALLY OBSERVED MORE PRECISE KNOWLEDGE OF RAINOUT FACTORS, DEPOSITION VELOCITIES, AND WASHOUT COEFFICIENTS WILL IMPROVE THE ESTIMATES

OF LOCAL ENVIRONMENTAL CONTAMINATION. ESTIMATES OF THE CAPACITIES OF SURFACE WATERS FOR H-3 ACCEPTANCE CAN BE MADE WITH LESS ERROR BECAUSE THE PATHS OF MOVEMENT ARE MORE RESTRICTED AND CHANGES IN TRANSPORT CHARACTERISTICS ARE MORE AMENABLE TO QUANTITATIVE MEASUREMENT. MOVEMENT OF H-3 CAN BE ASSUMED TO BE THE SAME AS THE MOVEMENT OF WATER IN SUCH A SYSTEM. HOWEVER, MOVEMENT OF TRITIATED WATER IN THE GROUND IS A BIT MORE COMPLEX. THE PATHS OF MOVEMENT ARE NOT SO READILY OBSERVED AS IN SURFACE WATERS, AND THE PATHS AND RATES OF MOVEMENT MAY CHANGE CONSIDERABLY WITH CHANGES IN THE MOISTURE OF THE GROUND. FURTHERMORE, ANY SPECIFIC REACTIONS OF H-3 WITH THE SOIL PARTICLES WILL BE ACCENTUATED AS THE RATIO OF SOIL TO WATER INCREASES; THAT IS, AS THE MOISTURE CONTENT DECREASES. SPECIFIC INTERACTIONS ARE THOUGHT TO OCCUR, BUT THEY HAVE NOT BEEN VERY WELL DOCUMENTED TO DATE. SOME FISSION-PRODUCT H-3 CAN APPARENTLY DIFFUSE OUT OF OXIDE FUELS CLAD WITH ALUMINUM OR STAINLESS STEEL. DIFFUSION OUT OF METAL FUELS OR OUT OF FUELS CLAD WITH ZIRCONIUM SEEMS TO BE MUCH LESS. (FROM AUTH. SUM.) H-3, RADIONUCLIDES, NUCLEAR REACTORS, ENVIRONMENTAL RADIATION, SURFACE WATER, RADIATION, REVIEW, ENVIRONMENTS, MONITORING, NUCLEAR POWER, COSMIC RADIATION, OXIDES, TRITIATED COMPOUNDS, WATER, GLOBAL, SAVANNAH RIVER PLANT, PACIFIC NORTHWEST LABORATORY, CHALK RIVER, NATIONAL REACTOR TESTING STATION, CANADA, OCEANS, RIVERS, GROUND WATER, HYDROLOGIC CYCLE, MAN, TRITIATED WATER

06441

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FATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER.

BIOCHEMISTRY, VOL. 7, PP 3708-3717, 1968, 4 FIGS., 3 TABS., 53 REFS.

MEASUREMENTS HAVE BEEN MADE OF THE AMOUNT OF RADIOACTIVITY INCORPORATED INTO FATTY ACIDS DURING THEIR SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN A MEDIUM CONTAINING TRITIATED WATER AND [U-C-14] GLUCOSE. THE INCORPORATION OF H-3 WAS PROPORTIONAL TO THE TOTAL RATE OF FATTY ACIDS SYNTHESIS AS ESTIMATED BY THE TISSUE NET GAS EXCHANGE. H-3 APPEARED ONLY IN THOSE FATTY ACIDS WHICH ALSO CONTAINED C-14. WHEN INSULIN WAS PRESENT MEDIUM GLUCOSE SERVED AS THE ONLY IMPORTANT PRECURSOR FOR FATTY ACID SYNTHESIS AND THE RATIO OF H-3 TO C-14 INCORPORATION WAS CONSTANT AND EQUAL TO 0.87. DEGRADATION OF THE FATTY ACIDS REVEALED THAT THE H-3 INCORPORATION WAS NOT UNIFORM ALONG THE CARBON CHAIN.

EVEN-NUMBERED POSITIONS CONTAINED 0.96 H-3 ATOM/C-14 ATOM AND ODD-NUMBERED POSITIONS 0.71. WHEN H(2)O OF THE MEDIUM WAS REPLACED BY D(2)O THE H-3 INCORPORATION WAS INCREASED TO 1.28 ATOMS/C-14 ATOM. THE ADDITIONAL H-3 APPEARED MAINLY AT THE EVEN-NUMBERED POSITIONS WHICH NOW CONTAINED 1.8 H-3 ATOMS/C-14 ATOM. FROM THESE DATA IT WAS ESTIMATED THAT IN THE ABSENCE OF AN ISOTOPE EFFECT 23 OF THE HYDROGEN ATOMS OF PALMITATE WOULD BE DERIVED FROM WATER. MEASUREMENT OF THE INCORPORATION OF DEUTERIUM FROM D(2)O INTO FATTY ACIDS CONFIRMED THIS CONCLUSION. THE GLYCERIDE GLYCEROL OF TISSUE INCUBATED WITH TRITIATED WATER, [U-C-14] GLUCOSE, AND INSULIN CONTAINED 1.10 H-3 ATOMS/ATOM OF C-14. IT IS PROPOSED THAT THE INCORPORATION OF H-3 INTO FATTY ACIDS CAN BE USED AS A RELIABLE MEASURE OF THE TOTAL RATE OF FATTY ACID SYNTHESIS IN BOTH CONTROL AND INSULIN-TREATED ADIPOSE TISSUE. H-3, RADIONUCLIDES, FATTY ACIDS, ORGANIC COMPOUNDS, WATER, TISSUES, C-14, GLUCOSE, CARBOHYDRATES, DEUTERIUM, NONMETALS, INSULIN, TRITIATED WATER, BIOCHEMISTRY, SYNTHESIS, PATS, TAGGING, RATS, RODENTS, MAMMALS, ANIMALS

06458

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LOW-LEVEL COUNTING BY LIQUID SCINTILLATION. I. TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS.

INTERNATIONAL JOURNAL OF APPLIED RADIATION AND ISOTOPES, VOL 20, PP 145-156, 1969, 12 FIGS., 1 TAB., 18 REFS.

THE SIGNIFICANT FACTORS WHICH AFFECT LOW-LEVEL COUNTING OF H-3 BY LIQUID SCINTILLATION HAVE BEEN INVESTIGATED. IN A TYPICAL OPERATING MODE OF THE SYSTEM HAVING A BACKGROUND OF 8.5 COUNTS/MIN, ONE COUNT/MIN ABOVE BACKGROUND CORRESPONDS TO 360 PICOCIL/L OF WATER (120 T.R.). THE DEVELOPED SYSTEM COMBINES CONVENIENCE OF AUTOMATIC SAMPLE COUNTING, ROOM TEMPERATURE OPERATION, HIGH EFFICIENCY, HIGH CAPACITY, AND SIMPLICITY FOR EFFECTIVE APPLICATION IN MEASURING H-3 LEVELS IN ENVIRONMENTAL SAMPLES. (AUTHS.)

H-3, RADIONUCLIDES, SCINTILLATION COUNTING, RADIOCHEMICAL ANALYSIS, ANALYSIS, CHEMICAL ANALYSIS, ENVIRONMENTS, WATER, URINE

06459

JOSEPH B. KNOX

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WATER QUALITY IN FLOODED NUCLEAR CRATERS.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50531. 26 P., 1968, 9 FIGS., 3 TABS., 14 REFS.

THE INITIAL SOLUTE CONCENTRATIONS OF THE SELECTED LONG-LIVED RADIONUCLIDES (RU-106, CE-144, SR-90, AND CS-137) AND THE SLOW MOVEMENT OF THESE NUCLIDES WITH RESPECT TO THE FLOW OF GROUNDWATER LEAD TO THE CONCLUSION THAT THE CONCENTRATIONS OF THESE NUCLIDES WOULD REMAIN NEAR OR BELOW TOLERANCE FOR THE USEFUL LIFE OF A RECHARGE CRATER. FURTHER, WATER CONTAINING THESE NUCLIDES IS EXPECTED TO BE FOUND BOTH IN AND IMMEDIATELY BELOW THE FALLBACK MATERIAL. DURING THE TIME THE NUCLIDES REMAIN IN THIS VICINITY, THE NUCLIDE SOLUTE CONCENTRATIONS WOULD BE FURTHER REDUCED BY RADIOACTIVE DECAY. IF THE LIP AND THE FALLBACK WERE FLOODED WITH WATER, AND IF THE HTO ATTACHED TO THE SOLIDS WAS EQUILIBRATED WITH THE PORE WATER, IT IS ESTIMATED THAT THE H-3 SOLUTE CONCENTRATION WOULD BE ABOUT 2400 TIMES THE ICRP TOLERANCE OF 1.0×10^{-6} (MINUS 3) MICROCI/CC. THE PROCESSES THAT CAUSE THIS H-3 TO MIGRATE HAVE BEEN ENUMERATED AND DISCUSSED. THE RESULTS OF THIS STUDY INDICATE THAT THE H-3 IN THE FALLBACK OF NUCLEAR CRATERS IS THE MAJOR SOURCE OF GROUNDWATER CONTAMINATION IN THE APPLICATION OF NUCLEAR CRATERS TO WATER-RESOURCES DEVELOPMENT. QUESTIONS CONCERNING WATER USE, APPROPRIATE H-3 TOLERANCES IN IRRIGATION WATERS, EVALUATION OF MANAGEMENT PROCEDURES, AND APPROPRIATE FIELD TESTS ARE THE CENTRAL ISSUES DEFINED IN THIS STUDY. (AUTH.)

H-3, RADIONUCLIDES, GROUND WATER, WATER, NUCLEAR CRATERS, SR-90, CONTAMINATION, TRITIATED WATER, RU-106, CE-144, CS-137, CRATERS, CRATERING, FALLBACK, NUCLEAR EXPLOSIONS, EXPLOSIONS, SEDAN, PLOWSHARE PROGRAM, NEVADA TEST SITE

06460

KUNIHICO KIGOSHI

GAKUSHUIN UNIVERSITY, DEPT. OF PHYSICS AND CHEMISTRY, MEJIRO, TOKYO, JAPAN

NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS.

U.S. AEC REPORT A/AC-82/G/L-693. 5 P., 1961, 3 TABS., 6 REFS.

REMARKABLE INCREASE IN THE CONCENTRATION OF THE ATMOSPHERIC KR-85 AFTER THE MIDDLE OF 1960.

(IS SHOWN.) THE MEASURED H-3 CONCENTRATIONS OF THE TREE RING ARE SHOWN TOGETHER WITH THE CR-14 - 0+0ND IN THE SAME TREE RING. THE CONCENTRATION OF CR-14 AND THAT OF H-3 IN THE TREE RING MAY BE REGARDED AS AN ANNUAL MEAN VALUE OF THE CR-14 CONCENTRATION IN THE ATMOSPHERE AND THAT OF THE H-3 CONCENTRATION IN THE RAIN WATER RESPECTIVELY. THE CONCENTRATION OF THE ATMOSPHERIC CR-14 SEEMS TO HAVE A MAXIMUM VALUE AT THE BEGINNING OF 1960, AND THAT OF H-3 DECREASES AFTER 1959 WITH THE HALF LIFE OF ABOUT ONE YEAR.

C-14, H-3, RADIONUCLIDES, KR-85, MAXIMUM PERMISSIBLE CONCENTRATION, ATMOSPHERE (TERRESTRIAL), GROWTH RINGS, TREES, PLANTS, CONCENTRATION, RAINWATER

06461

W. A. HANEY, D. J. BROWN, AND A. E. REISENAUER

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FISSION PRODUCT TRITIUM IN SEPARATIONS WASTES AND IN THE GROUND WATER.

RICHLAND, WASH., GENERAL ELECTRIC CO., HANFORD LABORATORIES OPERATION, HW-74536. 13 P., 1962, 2 FIGS., 2 TABS., 8 REFS.

U.S. AEC CONTRACT NO. AT(45-1)-1350.

ANALYSES OF COMPOSITED WASTE SAMPLES FROM THE PUREX AND REDOX SEPARATIONS PLANTS INDICATE THAT ABOUT 47 TO 64% OF THE THEORETICAL QUANTITY OF FISSION PRODUCT H-3 ENTERING THE PLANTS IS DISCHARGED TO GROUND IN PROCESS WASTE STREAMS. ALTHOUGH A PRECISE MATERIAL BALANCE CANNOT BE CALCULATED

AT PRESENT BECAUSE OF INSUFFICIENT DATA, MOST OF THE REMAINING 36 TO 53% OF CHARGED FISSION PRODUCT H-3 IS BELIEVED TO BE IN A GAS PHASE, WHICH IS RELEASED TO THE ATMOSPHERE, AND IN HIGH LEVEL LIQUID WASTES, WHICH ARE STORED IN UNDERGROUND TANKS. GROUND WATER CONTAMINATION PATTERNS BASED ON H-3 CONCENTRATIONS ARE SIMILAR TO THOSE BASED ON GROSS BETA EMITTER AND NITRATE ION CONCENTRATIONS. THE COMPARATIVELY RAPID MOVEMENT OF H-3 IN THE GROUND WATER HAS ASSISTED IN DEFINING THE PREFERENTIAL PATHS WHICH OTHER RADIONUCLIDES MAY LATER FOLLOW. H-3 CONCENTRATIONS EXCEEDING THE RECOMMENDED CONCENTRATIONS IN DRINKING WATER FOR CONTINUOUS NON-OCCUPATIONAL EXPOSURE, 1×10^{-3} MICROCI/CC, WERE OBSERVED IN MONITORING WELLS LOCATED UP TO 8 MILES SOUTHEAST OF THE 200-EAST AREA. (AUTH.) H-3, RADIONUCLIDES, GROUND WATER, WASTES, TRITIATED GAS, WASTE DISPOSAL, CONTAMINATION, URANIUM, EFFLUENTS, COLUMBIA RIVER, RIVERS, RADIOACTIVE WASTES

06462

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COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS.

RADIATION RESEARCH, VOL. 24, PP 214-238, 1965, 6 FIGS., 1 TAB., 68 REFS.

HAMSTER CELLS GROWING IN VITRO WERE CHRONICALLY IRRADIATED WITH EITHER H3TDI INCORPORATED INTO THE DNA, TRITIATED H2O CONTAINED IN THE MEDIUM, OR GAMMA-RAYS DELIVERED FROM A CO-60 TELETHERAPY SOURCE. AFTER EITHER 10 OR 23 HOURS OF CONTINUOUS IRRADIATION, THE CELLS WERE FIXED, AND THE NUMBER OF BREAKS AND EXCHANGES WERE SCORED IN METAPHASE CELLS. FOR ALL THREE RADIATIONS, 20 TO 40% OF THE ABERRATIONS WERE ATTRIBUTED TO EXCHANGES, ALL OF WHICH WERE OF THE CHROMATID TYPE. FOR BOTH TRITIATED H2O AND CO-60 THE ABERRATION FREQUENCY WAS RELATED TO THE 1.8 TO 1.9 POWER OF THE DOSE; WHERE AS FOR H3TDI THE RELATIONSHIP APPROACHED LINEARITY. THE AMOUNT OF CHROMOSOMAL DAMAGE FOR A GIVEN DOSE OF IRRADIATION WAS LESS IF THE RADIATION WAS ADMINISTERED OVER TWO CELL CYCLES (23 HOURS) INSTEAD OF OVER ONE CELL CYCLE. THE FOLLOWING CONCLUSIONS WERE REACHED- (1) ON THE BASIS OF ENERGY ABSORBED IN THE NUCLEUS OR CHROMOSOMES, THE BETA-PARTICLE FROM H3TDI WAS LESS EFFECTIVE FOR PRODUCING CHROMOSOMAL ABERRATIONS THAN THE BETA-PARTICLE EMITTED EITHER FROM TRITIATED H2O DISTRIBUTED IN THE NUCLEUS OR FROM GAMMA-RAYS ABSORBED IN THE CELL. (2) ENERGY ABSORPTION IN OR NEAR THE CHROMOSOMES IS PRIMARILY RESPONSIBLE FOR PRODUCING ABERRATIONS, AND THE TRANSMUTATION PROCESS IN H3TDI IS RELATIVELY INEFFECTIVE FOR INDUCING ABERRATIONS. (3) IN THE CELLS CHRONICALLY IRRADIATED BY TRITIATED H2O OR CO-60 GAMMA-RAYS DURING THE S AND G(2) PERIODS, MANY OF THE BREAKS REMAINED OPEN FOR AN HOUR OR MORE. (FROM AUTHS. SUM.) H-3, RADIONUCLIDES, WATER, THYMIDINE, NUCLEIC ACIDS, RADIATION, CO-60, GAMMA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, CELLS, DNA, CHROMOSOMES, TRITIATED WATER, BETA RADIATION, MUTATIONS, ANIMALS, TRITIATED COMPOUNDS, HAMSTERS, CHINESE HAMSTERS, RODENTS, MAMMALS, TAGGING, ENERGY, DESTRUCTIVE FACTORS, RADIATION DAMAGE, RADIATION EFFECTS

06463

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TRITIUM IN SURFACE WATERS OF THE UNITED STATES, 1966.

RADIOLOGICAL HEALTH DATA REPORTS, VOL. 9, NO. 7, PP 337-339, 1966, 1 TAB., 7 REFS.

DURING 1964, A H-3 SAMPLING NETWORK WAS ESTABLISHED BY THE PUBLIC HEALTH SERVICE TO MEASURE THE LEVELS AND CONSEQUENTLY TO DETERMINE THE PUBLIC HEALTH SIGNIFICANCE OF H-3 IN SURFACE WATERS OF THE UNITED STATES. THE ANALYTICAL PROCEDURES USED ARE DESCRIBED. DATA FOR THE SAMPLES OBTAINED ARE PRESENTED. A MEANS FOR ESTIMATING THE RADIATION DOSE RESULTING FROM H-3 IN THE BODY IS DEVELOPED. H-3, RADIONUCLIDES, SURFACE WATERS, ANALYSIS, TECHNIQUES, BODY BURDEN, MEDICINE, MEASUREMENT, SAMPLING, WATER, UNITED STATES, MAN, RIVERS, SCINTILLATION COUNTING, EQUATIONS, NUCLEAR POWER

06464

J. C. DALY, A. V. MANCHESTER, J. J. GABAY, AND N. I. SAX
NEW YORK STATE HEALTH DEPT., ALBANY, N.Y.

TRITIATED MOISTURE IN THE ATMOSPHERE SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT.

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 9, NO. 7, PP 341-346, 1966, 2 FIGS., 8 TABS., 11 REFS.

A NEW WIDE-AREA SAMPLING TECHNIQUE WAS USED TO COLLECT MORE THAN 700 TRITIATED MOISTURE SAMPLES OVER A 2-MONTH PERIOD FROM 7 SAMPLING LEGS RADIATING OUT FROM A NUCLEAR FUEL REPROCESSING PLANT.

FOR THE 28 SAMPLING PERIODS STUDIED, THE AVERAGE H-3 RADIOACTIVITY ON THE SAMPLING LEG NORTHWEST OF THE PLANT EXCEEDED 2,500 PICOCI/L, 75% OF THE TIME AND EXCEEDED 10,000 PICOCURIES/L, 39% OF THE TIME AS OPPOSED TO AMBIENT LEVELS OF <2,500 PICOCI/L. THE HIGHEST H-3 LEVEL RECORDED WAS 26,400 PICOCI/L. THESE DATA ARE REPORTED NOT SO MUCH FOR THEIR EPIDEMIOLOGIC VALUE AS FOR THEIR VALUE TO PUBLIC HEALTH AGENCIES CONTEMPLATING RADIOLOGICAL SURVEILLANCE AROUND NUCLEAR FACILITIES. (AUTHS.) NUCLEAR FUEL PLANTS, ATMOSPHERE (TERRESTRIAL), H-3, RADIONUCLIDES, MOISTURE, SAMPLING, TRITIATED WATER VAPOR, NUCLEAR POWER, NEW YORK, EFFLUENTS, SCINTILLATION COUNTING, CONCENTRATION

06465

U.S. PUBLIC HEALTH SERVICE, NATIONAL CENTER FOR RADIOLOGICAL HEALTH, ROCKVILLE, MD.

TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1968.

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 9, NO. 11, PP 665-666, 1968, 1 FIG., 1 TAB., 4 REFS.

THE H-3 SAMPLING NETWORK WAS ESTABLISHED BY THE PUBLIC HEALTH SERVICE IN MAY 1964 TO MEASURE AND MONITOR H-3 CONCENTRATIONS IN MAJOR RIVER SYSTEMS IN THE UNITED STATES AND TO PROVIDE SURVEILLANCE AT SELECTED SURFACE WATER STATIONS DOWNSTREAM FROM NUCLEAR FACILITIES. THE NETWORK CONSISTS OF 10 STATIONS SELECTED FROM THE 131 EXISTING WATER POLLUTION SAMPLING STATIONS OPERATED BY THE FEDERAL WATER POLLUTION CONTROL ADMINISTRATION (FWPCA); EIGHT OF THE STATIONS ARE LOCATED DOWNSTREAM FROM NUCLEAR FACILITIES AND TWO STATIONS WERE TO ESTABLISH BASELINE LEVELS. THE HIGHEST CONCENTRATION OBSERVED DURING THE FIRST 6 MONTHS OF 1968 WAS 23.5 N CI/L (CLINCH RIVER - KINGSTON, TENN.). THE HIGHEST 6-MONTH AVERAGE, 9.6 N CI/L, WAS ALSO OBSERVED AT THE CLINCH RIVER STATION.

H-3, RADIONUCLIDES, SURFACE WATERS, CLINCH RIVER, RIVERS, POLLUTION, WATER POLLUTION, NUCLEAR FUEL PLANTS, CONTAMINATION, SAMPLING, CONCENTRATION, UNITED STATES, WATER

06466

U.S. PUBLIC HEALTH SERVICE, NATIONAL CENTER FOR RADIOLOGICAL HEALTH, ROCKVILLE, MD.

TRITIUM IN SURFACE WATER NETWORK, 1967.

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 9, NO. 10, PP 564-565, 1968, 1 FIG., 1 TAB., 4 REFS.

A H-3 SAMPLING NETWORK WAS ESTABLISHED BY THE PUBLIC HEALTH SERVICE IN MAY 1964 TO MEASURE AND MONITOR H-3 CONCENTRATIONS IN MAJOR RIVER SYSTEMS IN THE UNITED STATES AND TO PROVIDE SURVEILLANCE AT SELECTED SURFACE WATER STATIONS DOWNSTREAM FROM NUCLEAR FACILITIES. THE NETWORK CONSISTS OF 10 STATIONS SELECTED FROM THE 131 EXISTING WATER POLLUTION SAMPLING STATIONS OPERATED BY THE FEDERAL WATER POLLUTION CONTROL ADMINISTRATION (FWPCA); EIGHT OF THE STATIONS ARE LOCATED DOWNSTREAM FROM NUCLEAR FACILITIES AND TWO STATIONS SERVE TO ESTABLISH BASELINE LEVELS. THE HIGHEST CONCENTRATION OBSERVED DURING 1967 WAS 16.9 N CI/L AT THE PORT WENTWORTH, GA. STATION (SAVANNAH RIVER.) THE HIGHEST YEARLY AVERAGE, 7.0 N CI/L WAS ALSO OBSERVED AT THE PORT WENTWORTH STATION.

H-3, RADIONUCLIDES, SURFACE WATERS, RIVERS, SAVANNAH RIVER, POLLUTION, WATER POLLUTION, NUCLEAR FUEL PLANTS, CONTAMINATION, SAMPLING, WATER, CONCENTRATION, UNITED STATES

06467

C. B. WOOLDRIDGE, ED.

BATTELLE MEMORIAL INSTITUTE, RICHLAND, WASH.

EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968.

RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, RADIATION PROTECTION DEPARTMENT, BNWL-1135, 59 P., 1969, 26 FIGS., 3 TABS., 16 REFS.

SURVEILLANCE OF THE HANFORD ENVIRONS DURING THE FIRST HALF OF 1968 SHOWED THAT THE CONCENTRATIONS OF RADIOACTIVE MATERIALS IN THE HANFORD VICINITY WERE WELL WITHIN THE APPROPRIATE LIMITS AND THAT RADIOACTIVE WASTES WERE UNDER SOUND AND CONTINUOUS CONTROL. MOST OF THE ENVIRONMENTAL RADIATION DOSE FOR THE MAJORITY OF PERSONS LIVING IN HANFORD ENVIRONS WAS CAUSED BY NATURAL SOURCES AND WORLDWIDE

FALLOUT RATHER THAN BY HANFORD OPERATIONS THE MAJOR SOURCE OF LOW-LEVEL RADIOACTIVE WASTE RELEASED TO THE ENVIRONMENT FROM HANFORD PLANTS IS REACTOR COOLING WATER DISCHARGED TO THE COLUMBIA RIVER P-32 CONTINUED TO BE THE RADIONUCLIDE OF HANFORD ORIGIN THAT CONTRIBUTED THE LARGEST RADIATION DOSE TO INDIVIDUALS WHO CONSISTENTLY ATE SIZEABLE QUANTITIES OF LOCALLY CAUGHT FISH TO ESTIMATE THE MAXIMUM RADIATION DOSE RECEIVED BY PERSONS RESIDING IN THE HANFORD ENVIRONS, A HYPOTHETICAL MAXIMUM INDIVIDUAL HAS BEEN POSTULATED INCLUDED IN THIS INDIVIDUALS ANNUAL DIET WERE 200 MEALS OF COLUMBIA RIVER FISH THE MAXIMUM INDIVIDUALS ESTIMATED INTAKE OF P-32 FROM FISH FOR THE 12-MONTH PERIOD ENDING JUNE 30, 1968, WAS ABOUT 9% OF THE MAXIMUM PERMISSIBLE RATE OF INTAKE (WITH BONE AS THE CRITICAL ORGAN) THIS INTAKE IS SLIGHTLY LESS THAN THE 10% MPRI FROM P-32 IN FISH THAT WAS REPORTED FOR 12 MONTHS OF 1967 THE MAJOR SOURCE OF THE RADIATION DOSE FROM HANFORD OPERATIONS FOR THE RICHLAND POPULATION CONTINUED TO BE DRINKING WATER OBTAINED FROM THE COLUMBIA RIVER AN EVALUATION OF ESTIMATED DOSES RECEIVED BY THE VARIOUS BODY ORGANS INDICATED THAT THE DOSE TO THE INFANT THYROID WAS THE LARGEST PERCENTAGE OF APPROPRIATE LIMITS THE THYROID DOSE FROM DRINKING WATER FOR A TYPICAL RICHLAND INFANT FOR THE 12-MONTH PERIOD ENDING JUNE 30, 1968, WAS ABOUT 12% OF THE LIMIT, SOMEWHAT GREATER THAN THAT REPORTED FOR THE CALENDAR YEAR 1967 FOR THE TYPICAL RICHLAND RESIDENT, THE ESTIMATED DOSES FROM DRINKING WATER TO OTHER ORGANS FOR THE SAME PERIOD WERE SIMILAR TO OR LESS THAN COMPARABLE 1967 VALUES THE CONCENTRATION OF TOTAL BETA ACTIVITY ASSOCIATED WITH AIRBORNE PARTICULATE MATERIAL DURING THE FIRST HALF OF 1968 WAS SUSTAINED AT HIGHER CONCENTRATIONS THAN IN THE HALF OF 1967, PRIMARILY BECAUSE OF INCREASED FALLOUT (AUTH) ENVIRONMENTAL RADIATION, RADIATION, MAXIMUM PERMISSIBLE CONCENTRATION, P-32, RADIONUCLIDES, DOSE ESTIMATION, THYROID GLAND, COLUMBIA RIVER, RIVERS, GROUND WATER, FALLOUT, FISH, ANIMALS, MILK, P-32, SC-46, CR-51, ZN-65, NP-239, H-3, RU-RH-106, I-131, NA-24, CU-64, AS-76, SB-122, MAN, ORGANS

06468

OTTO L. STEIN
UNIVERSITY OF MASSACHUSETTS, AMHERST, MASS
COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963
U S ABC REPORT TID-21604, 13 P, JAN 1965, 1 TAB, 22 REFS
U S ABC CONTRACT NO AT(45-1)-1302

PROGRESS IS REPORTED IN STUDIES ON THE EFFECTS OF RADIATION ON PLANT MORPHOLOGY AND PRACTICAL APPLICATIONS OF RADIATION IN PROBLEMS RELATED TO MUTATION BREEDING AND PLANT METABOLISM RESULTS ARE REPORTED FROM STUDIES ON THE EFFECTS OF CHRONIC AND ACUTE EXPOSURE TO DOSES OF 330 R/20-HR DAY OR SINGLE DOSES OF 200 R X OR GAMMA RADIATION ON THE DEVELOPMENT OF CELLS OF KALANCHOE PLANTS IN AIR AND IN VARIOUS GAS ATMOSPHERES A FINELY FOCUSED SR-90/Y-90 SOURCE WAS DEVELOPED TO RESTRICT RADIATION EXPOSURE TO APICAL MERISTEM CELLS AND RESULTS INDICATE THAT THE PHENOMENA OBSERVED IN X IRRADIATED PLANTS WERE THE RESULT OF INSULT TO THE APICAL MERISTEM RATHER THAN OVER-ALL RADIATION DATA ARE INCLUDED ON THE SENSITIVITY OF CORN AND PEA ROOTS TO INTERNAL NUCLEAR RADIATION, USING TRITIATED THYMIDINE AS THE RADIATION SOURCE, THE EFFECTS X RADIATION ON THE DEVELOPMENT OF CORN ROOTS, THE EFFECTS OF A HIGH CONCENTRATION OF HEAVY WATER ON ROOT ELONGATION AND CELL DIVISION IN A MONOCOT, ZEA MAYS, AND A DICOT, PISUM SATIVUM, AND THE EFFECTIVENESS OF THE INDUCED COLOR CHIMERA SYSTEM IN THE ASSAY OF MUTATION TREATMENTS IN PLANTS (AUTH) RADIATION EFFECTS, MORPHOLOGY, PLANTS, METABOLISM, H-3, RADIONUCLIDES, THYMIDINE, CORN, CROPS, GRAINS, PEAS, TRITIATED THYMIDINE, ROOTS, MUTATIONS, KALANCHOE, CRASSULACEAE, FLOWERING PLANTS, TRACERS, METABOLISM, IRRADIATION, TRITIATED COMPOUNDS

06469

ROY C. THOMPSON AND H. A. KORNBERG
GENERAL ELECTRIC CO, HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH
HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM OXIDE
RICHLAND, WASH, HANFORD ATOMIC PRODUCTS OPERATION, HW-29815 (REV) (DEL), 41 P, JAN 1954, 2 TABS, 68 REFS
U S ABC CONTRACT NO W-31-109-ENG-52
EXPERIMENTAL DATA PERTINENT TO THE EVALUATION OF HAZARDS INVOLVED IN THE EXPOSURE OF PERSONNEL TO H-3 AND H-3 OXIDE ARE REVIEWED CONCLUSIONS ARE DRAWN AND RECOMMENDATIONS MADE WITH REGARD TO THE CONTROL OF THESE HAZARDS (AUTHS)
MAXIMUM PERMISSIBLE CONCENTRATION, RADIATION EXPOSURE, HAZARDS, H-3, OXIDES, RADIONUCLIDES, TRITIATION OXIDE, MAN, CONCENTRATION, GASES, ATMOSPHERE (TERRESTRIAL), BIOLOGICAL EFFECTIVENESS, WATER, ANIMALS, REVIEW, ABSORPTION, DISTRIBUTION, RETENTION, MICE, RODENTS, MAMMALS, RATS

06470

U S PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, ROCKVILLE, MD
CARBON-14, TRITIUM, AND PLUTONIUM-239 IN MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968
RADIOLOGICAL HEALTH DATA AND REPORTS, VOL 10, NO 11, PP 500-505, 1969, 1 FIG, 7 TABS, 3 REFS
THE BUREAU OF RADIOLOGICAL HEALTH INITIATED A PROGRAM IN JULY 1965 TO DETERMINE THE LEVELS OF CARBON-14, H-3 AND PLUTONIUM-239 IN THE TOTAL DIET AND MILK IN THE UNITED STATES H-3 ANALYSES ARE PERFORMED MONTHLY, CARBON-14 ANALYSES ARE DONE SEMIANNUALLY, AND PLUTONIUM-239 ANALYSES ARE PERFORMED ON 6-MONTH COMPOSITE SAMPLES THE RESULTS INDICATED THAT PLUTONIUM-239 WAS NOT PRESENT IN DETECTABLE QUANTITIES, AND, AS A RESULT, THE ANALYSIS OF MILK FOR PLUTONIUM-239 WAS DISCONTINUED IN JUNE 1967 FOR JANUARY-JUNE 1966, PLUTONIUM-239 WAS GENERALLY PRESENT IN RELATIVELY LOW BUT DETECTABLE AMOUNTS IN FOOD SAMPLES WITH A MAXIMUM CONCENTRATION FOR THIS PERIOD OF 7.9 P CI/KG SINCE JUNE 1966, CONCENTRATIONS OF PLUTONIUM-239 IN TOTAL DIET SAMPLES HAVE BEEN GENERALLY BELOW DETECTABLE LIMITS FROM JANUARY 1966 THROUGH DECEMBER 1968, ANALYSIS FOR CARBON-14 WAS DONE ON A SEMIANNUAL BASIS (IN APRIL AND OCTOBER) FOR SAMPLES FROM EACH OF THE NINE SELECTED STATIONS THE MEAN FOR ALL STATIONS FOR EACH HALF YEAR FOR TOTAL DIET INCREASED FROM 1,130 P CI/KG IN APRIL 1966 TO 1,300 P CI/KG IN APRIL 1967, BUT SINCE THEN HAS STEADILY DECREASED TO 1,030 P CI/KG IN OCTOBER 1968 FOR MILK, THE VALUES APPEAR TO BE ABOUT THE SAME AS IN 1965, WITH THE SUGGESTION OF A SPRING RISE FOR THE APRIL SAMPLES THE RESULTS FOR H-3 IN MILK AND TOTAL DIET FOR THE PERIOD, JULY-DECEMBER 1965, ARE GIVEN DETECTABLE VALUES RANGED FROM 1.5 TO 4.9 N CI/KG FOR FOOD SAMPLES AND FROM 1.7 TO 8.9 N CI/KG FOR MILK SAMPLES, SINCE NONE OF THESE SAMPLES WERE ENRICHED C-14, H-3, PU-239, RADIONUCLIDES, MILK, DAIRY PRODUCTS, FOODS, DIETS, SAMPLING, MONITORING, UNITED STATES, MAN, CONCENTRATION

06532

BERNARD SHLEIBEN, MARY A. WALL, AND DAVID LUTZ
U S DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, NORTHEASTERN RADIOLOGICAL HEALTH LABORATORY, WINCHESTER, MASS
ESTIMATION OF RADIATION DOSES TO THE RESPIRATORY TRACT FROM INHALATION OF AIRBORNE RADIOACTIVITY ENVIRONMENTAL SCIENCE AND TECHNOLOGY, VOL 2, PP 438-443, 1968, 6 TABS, 14 REFS
A GRADED FILTRATION SAMPLER DEVELOPED TO ESTIMATE THE RESPIRATORY DEPOSITION OF AIRBORNE FALLOUT PROVIDES INFORMATION WHICH WHEN USED WITH A SUITABLE LUNG MODEL PERMITS ESTIMATION OF THE RADIATION DOSE TO THE NASOPHARYNGEAL, TRACHEBRONCHIAL, AND PULMONARY REGIONS OF THE ADULT RESPIRATORY TRACT ESTIMATED DOSES TO ADULTS FROM AIRBORNE FALLOUT COLLECTED IN NOVEMBER 1966 AND JANUARY 1967 WERE 85 AND 130 MICROREM PER 70 YEARS TO THE NASOPHARYNGEAL AND PULMONARY REGIONS OF RESPIRATORY TRACT, RESPECTIVELY ESTIMATED RADIATION DOSE TO THE TRACHEBRONCHIAL REGION WAS LESS THAN 0.01 MICROREM PER 70 YEARS A DOSE OF 225 MICROREM PER 70 YEARS TO THE THYROID GLAND WAS ESTIMATED DUE TO INHALATION THE GREATEST SINGLE DOSE COMMITMENT FROM FRESH FISSION PRODUCTS WAS TO THE RESPIRATORY LYMPHATIC NODES DUE TO INHALED CE-144 AND PR-144 THIS WAS APPROX 40 TIMES THE PULMONARY REGION DOSE AMONG LONG-LIVED RADIONUCLIDES, PU-239 DELIVERED THE GREATEST DOSE TO THE RESPIRATORY LYMPH NODES DOSES TO THE RESPIRATORY TRACT FROM THE LEVELS OF AIRBORNE FRESH FISSION PRODUCTS ENCOUNTERED IN THIS STUDY ARE LOW WHEN COMPARED WITH NONOCCUPATIONAL RADIATION DOSES DUE TO INHALED RADON AND ITS SHORT-LIVED DAUGHTERS THIS APPROACH TO ESTIMATION OF RESPIRATORY DOSES IS APPLICABLE TO MONITORING OF NUCLEAR FACILITIES FOR AIRBORNE PARTICULATE HAZARDS EVALUATION (AUTHS)
DOSE ESTIMATION, RESPIRATORY TRACT, FALLOUT, INHALATION, CS-144, PR-144, PU-239, RADIONUCLIDES, MAN

U S PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH
TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1969

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL 10, NO 11, PP 513-514, 1969, 1 FIG, 1 TAB, 4 REFS
THE H-3 SAMPLING NETWORK WAS ESTABLISHED BY THE PUBLIC HEALTH SERVICE IN MAY 1964, TO MEASURE AND MONITOR H-3 CONCENTRATIONS IN MAJOR RIVER SYSTEMS IN THE UNITED STATES AND TO PROVIDE SURVEILLANCE AT SELECTED SURFACE WATER STATIONS DOWNSTREAM FROM NUCLEAR FACILITIES. THE NETWORK CONSISTS OF 10 STATIONS SELECTED FROM THE 131 EXISTING WATER POLLUTION SAMPLING STATIONS OPERATED BY THE FEDERAL WATER POLLUTION CONTROL ADMINISTRATION (FWPCA). EIGHT OF THE STATIONS ARE LOCATED DOWNSTREAM FROM NUCLEAR FACILITIES AND TWO STATIONS SERVE TO ESTABLISH BASELINE LEVELS. THE HIGHEST CONCENTRATION OBSERVED DURING THE FIRST 6 MONTHS OF 1969 WAS 22.0 N CI/L (CLINCH RIVER - KINGSTON, TENN.). THE HIGHEST 6 MONTH AVERAGE, 14.4 N CI/L, WAS ALSO OBSERVED AT THE CLINCH RIVER STATION.
H-3, RADIONUCLIDES, SAMPLING, SURFACE WATERS, CLINCH RIVER, RIVERS, WATER POLLUTION, POLLUTION, NUCLEAR FUEL PLANTS, WATER, CONCENTRATION, UNITED STATES

06474

CHARLES P. SMITH AND FLOYD P. MONYER
UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.
STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT

RADIOLOGICAL HEALTH AND DATA REPORTS, VOL 10, NO 7, PP 281-288, 1969, 9 FIGS, 2 TABS, 1 REFS
DATA RELATING TO THE CHEMICAL AND RADIOCHEMICAL RESULTS FROM PROJECT GASBUGGY CHIMNEY-GAS SAMPLES OBTAINED PRIOR TO 210 DAYS AFTER DETONATION (DECEMBER 10, 1967) ARE PRESENTED FOR SIGNIFICANT NON-RADIOACTIVE COMPONENTS OF THE GAS AND FOR H-3 AND KRYPTON-85 MAJOR CONSTITUENTS OF THE GASBUGGY GAS DURING THE PERIOD FROM 34 DAYS TO 200 DAYS FOLLOWING THE DETONATION. METHANE (INCREASING FROM 37 TO 44%), ETHANE (INCREASING FROM 4 TO 5%), PROPANE (CONSTANT AT APPROX 1%), CARBON DIOXIDE (CONSTANT AT APPROX 36%), HYDROGEN (DECREASING FROM 17 TO 12%) AND CARBON MONOXIDE (DECREASING FROM 4 TO LESS THAN 2%) MUCH MORE SIGNIFICANT CHANGES WERE OBSERVED DURING THE FIRST MONTH. KRYPTON-85 CONCENTRATION (2.8 MICRO CI/PT (3)) NTP (NORMAL TEMPERATURE AND PRESSURE) REMAINED ESSENTIALLY CONSTANT OVER THE ENTIRE SAMPLING PERIOD IMPLYING MIXING WITH A CONSTANT VOLUME (1.2 X 10⁸ PT (3)) NTP OF NONCONDENSABLE GAS DURING THIS TIME. H-3 WAS OBSERVED PRIMARILY AS HYDROGEN GAS SOON AFTER DETONATIONS. A RAPID DECREASE IN HT CAME WITHIN THE FIRST MONTH CONVERTING MOST OF THE HT TO HTO BUT PRODUCING SOME CH3T AND C2H5T. THE PREDOMINANT H-3-CONTAINING SPECIES, EXCEPT AT VERY EARLY TIME, IS CH3T, AT A CONCENTRATION INCREASED SLIGHTLY OVER THE FIRST 200 DAYS, THAT OF HT CONCENTRATION OF 12 TO 14 MICRO CI/PT (3) NTP. BOTH CH3T AND C2H5T CONTINUE TO DECREASE. THE RATIOS CH3T/CH4 AND C2H5T/C2H6 ARE ESSENTIALLY CONSTANT OVER THE PERIOD FROM 30 TO 200 DAYS IMPLYING THAT THE EXCHANGE EQUILIBRIUM WAS ATTAINED RAPIDLY. THE RATIO HT/H2 CONTINUES TO DECREASE OVER THE SAME PERIOD IMPLYING A CONTINUING INFLUX OF NON-TRITIATED WATER INTO THE CHIMNEY AND A REASONABLY RAPID EXCHANGE REACTION BETWEEN HT AND H2O (FROM AUTHS. ABSTR.).
CHEMICAL COMPOSITION, CHEMICAL ANALYSIS, RADIOCHEMICAL ANALYSIS, H-3, NUCLEAR EXPLOSIONS, NATURAL GAS, PROJECT GASBUGGY, ANALYSIS, KR-85, EXPLOSIONS, RADIONUCLIDES, METHANE, ETHANE, HYDROGEN, CARBON DIOXIDE, CONCENTRATION, TRITIATED HYDROGEN, TRITIATED WATER, FLOWSHARE PROGRAM

06475

KURT ANDERSON
NEW YORK STATE DEPT OF HEALTH, BUREAU OF RADIOLOGICAL HEALTH, ALBANY N Y
TRITIUM IN NEW YORK STATE WATERS, 1965

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL 10, NO 3, PP 93-97, 1965, 3 FIGS, 3 TABS, 2 REFS
THE BUREAU OF RADIOLOGICAL HEALTH OF THE NEW YORK STATE HEALTH DEPARTMENT CONDUCTED A SURVEY OF H-3 CONCENTRATIONS IN VARIOUS WATERS OF NEW YORK STATE DURING 1965. THREE PARTS OF THE STUDY INCLUDED SAMPLING OF MAJOR RIVER SYSTEMS AND LARGE LAKES, INTENSE SAMPLING OF THE AREA NEAR THE FIRST COMMERCIAL FUELS REPROCESSING PLANT, AND SAMPLING OF THE GROUND WATERS ON LONG ISLAND. IN THE STATEWIDE STUDY THE SAMPLES TAKEN FROM LAKES SENECA, CAYUGA, ONTARIO, AND ERIE HAD H-3 CONCENTRATIONS LESS THAN 1.3 N CI/L, WHILE LAKE GEORGE AND LAKE CHAMPLAIN HAD LEVELS ABOVE THAT AMOUNT. THE CREEKS AND OTHER WATER BODIES SAMPLED AROUND THE FUELS REPROCESSING PLANT HAD AN AVERAGE H-3 CONCENTRATION OF APPROX 1.9 N CI/L. THE WELLS ON LONG ISLAND EXHIBIT VERY LOW CONCENTRATIONS OF H-3 COMPARED TO SURFACE WATERS. GENERALLY SPEAKING, H-3 LEVELS IN SURFACE WATERS OF NEW YORK STATE MAY HAVE INCREASED BY A FACTOR OF 70 TO 100 TIMES SINCE THE DEVELOPMENT OF NUCLEAR WEAPONS, WHILE DEEP WELL WATER HAS NOT YET BEEN AFFECTED.
H-3, RADIONUCLIDES, NEW YORK, RIVERS, LAKES, GROUND WATER, WATER, SAMPLING, CONCENTRATION, NUCLEAR POWER

06476

U S PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, ROCKVILLE, MD
TRITIUM IN SURFACE WATER NETWORK, JULY-DECEMBER 1968

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL 10, NO 6, PP 263-264, 1969, 1 TAB, 4 REFS
THE H-3 SAMPLING NETWORK WAS ESTABLISHED BY THE PUBLIC HEALTH SERVICE IN MAY 1964 TO MEASURE AND MONITOR H-3 CONCENTRATIONS IN MAJOR RIVER SYSTEMS IN THE UNITED STATES AND TO PROVIDE SURVEILLANCE AT SELECTED SURFACE WATER STATIONS DOWNSTREAM FROM NUCLEAR FACILITIES. THE NETWORK CONSISTS OF 10 STATIONS SELECTED FROM THE 131 EXISTING WATER POLLUTION SAMPLING STATIONS OPERATED BY THE FEDERAL WATER POLLUTION CONTROL ADMINISTRATION (FWPCA). EIGHT OF THE STATIONS ARE LOCATED DOWNSTREAM FROM NUCLEAR FACILITIES AND TWO STATIONS SERVE TO ESTABLISH BASELINE LEVELS. THE HIGHEST CONCENTRATION OBSERVED DURING THE LAST 6 MONTHS OF 1968 WAS 8.9 N CI/L (SAVANNAH RIVER-PORT WENTWORTH, GA.).
THE HIGHEST 6-MONTH AVERAGE, 6.9 N CI/L, WAS ALSO OBSERVED AT THE SAVANNAH RIVER STATION.
H-3, RADIONUCLIDES, SURFACE WATERS, SAVANNAH RIVER, RIVERS, SAMPLING, CONCENTRATION, NUCLEAR FUEL PLANTS, UNITED STATES, WATER

06482

WILLARD F. LIBBY
UNIVERSITY OF CHICAGO, FERMI INSTITUTE OF NUCLEAR STUDIES, CHICAGO, ILL.
RADIOCARBON DATING 2D ED
CHICAGO, ILL., UNIVERSITY OF CHICAGO PRESS, PHOENIX SCIENCE SERIES XI, 175 P, 1965, ILLUSTRATIONS, REFS

THE AUTHOR WAS AWARDED THE NOBEL PRIZE IN CHEMISTRY (1960) FOR HIS WORK ON CARBON DATING. THIS BOOK INCLUDES CHAPTERS ON: WORLD-WIDE DISTRIBUTION OF RADIOCARBON, HALF-LIFE OF RADIOCARBON, PREPARATION OF THE SAMPLE FOR MEASUREMENT, MEASUREMENT OF THE SAMPLE, RADIOCARBON DATES, AND A CHAPTER WRITTEN BY FREDERICK JOHNSON ENTITLED REFLECTIONS UPON THE SIGNIFICANCE OF RADIOCARBON DATES.

RADIOACTIVE AGE DETERMINATION, C-14, RADIONUCLIDES, DISTRIBUTION, TECHNIQUES, SAMPLING, H-3

06483

FRANK E. BUTLER
E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S C
DETERMINATION OF TRITIUM IN WATER AND URINE
ANALYTICAL CHEMISTRY, VOL 33, NO 3, PP 409-414, 1961, 5 FIGS, 4 TABS, 13 REFS
U S AEC CONTRACT NO AT(07-2)-1

TWO METHODS ARE PRESENTED FOR THE ACCURATE DETERMINATION OF H-3 IN URINE AND WATER. ONE METHOD, LIQUID SCINTILLATION COUNTING, UTILIZES AN IMPROVED SCINTILLATION MIXTURE AND DISPOSABLE, LOW BACKGROUND, POLYSTYRENE VIALS. UNTREATED URINE SAMPLES ARE ASSAYED AT H-3 LEVELS OF 1 MICRO C PER LITER AFTER A 1-MINUTE COUNT. THE LOWER LIMIT OF DETECTION OF H-3 IN WATER IS 0.005 MICRO C PER LITER AND 0.05 MICRO C PER LITER CAN BE DETERMINED WITH A RELATIVE STANDARD DEVIATION OF LESS THAN 10% AFTER A 30-MINUTE COUNTING PERIOD. RESULTS ARE COMPARABLE WITH THE SECOND METHOD OF H-3 DETERMINATION, USING A VIBRATING REED ELECTROMETER RATE-OF-DRIFT DETERMINATION. THE VIBRATING REED PROCEDURE REQUIRES LESS EXPENSIVE EQUIPMENT AND IS SUITABLE FOR ANALYZING 4 TO 6 SAMPLES PER DAY (AUTH.).
ELECTROLYSIS, SCINTILLATION COUNTING, CHEMICAL ANALYSIS, ANALYSIS, URINE, WATER, RADIONUCLIDES, H-3, URINE ANALYSIS, MAN

W. R. BUSH
ATOMIC ENERGY OF CANADA LIMITED, CHALK RIVER, ONTARIO, CANADA
REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER.
CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, AECL-2756.
20 P., JULY 1967, 6 FIGS., 4 TABS., 7 REFS.

THE GROWTH OF THE H-3 (HTO) HAZARD IN THE NRU REACTOR BUILDING IS REVIEWED AND THE METHODS AND EXPOSURE GUIDES INTRODUCED TO KEEP THE HAZARD UNDER CONTROL ARE OUTLINED. HTO INTAKES ARE CLASSIFIED AS REMOVAL, CAUTION, MINOR OR NEGLIGIBLE, DEPENDING ON THE HTO CONCENTRATION IN URINE. REMOVAL EXPOSURES (20 MICRO CI/L) ARE INVESTIGATED AND A REPORT OF THE EXPOSURE INCIDENT IS DISTRIBUTED TO ALL BRANCHES. THE AVERAGE HTO DOSE RECEIVED IN 50 REMOVAL EXPOSURES IN 1966 WAS 230 MREM. THE AVERAGE RECEIVED BY ALL OPERATING PERSONNEL WAS 750 MREM, RECEIVED MOSTLY FROM MINOR AND NEGLIGIBLE EXPOSURES. THE LARGEST HTO EXPOSURE RESULTED IN A DOSE COMMITMENT OF 4700 MREM, AND 19 OTHER SINGLE EXPOSURES HAVE EXCEEDED 500 MREM. MOST OF THESE RESULTED FROM INTAKE OF HTO VAPOR THROUGH THE UNWETTED SKIN OF MEN WEARING AIR-SUPPLIED MASKS AND COTTON COVERALLS. (AUTH.)
WHOLE BODY EXPOSURE, RADIATION EXPOSURE, WATER VAPOR, H-3, WATER, CLOTHING, SKIN, URINE, RADIONUCLIDES, TRITIATED WATER, SAFETY, MAN, TRITIATED WATER VAPOR, NUCLEAR POWER REACTORS, RADIATION, MONITORING, ENVIRONMENTAL RADIATION

06488

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TRITIUM AND ITS COMPOUNDS.

PRINCETON, N.J., D. VAN NOSTRAND CO., INC., XIV, 441 P., 1966, ILLUS., REFS.

THIS BOOK GIVES FULL DIRECTIONS FOR THE USE OF H-3 (RADIOACTIVE HYDROGEN) WHICH IS RAPIDLY REPLACING DEUTERIUM AS A HYDROGEN TRACER IN ALL PHASES OF RESEARCH IN BIOCHEMISTRY, AGRICULTURAL CHEMISTRY AND PHYSICS. THE SUBJECTS COVERED INCLUDE- PHYSICAL PROPERTIES AND PRODUCTION; THE USES OF H-3 AND ITS COMPOUNDS; PRECAUTIONS IN H-3 HANDLING; THE PREPARATION OF H-3-LABELLED COMPOUNDS; MEASUREMENT AND ANALYSIS OF H-3 COMPOUNDS; AND PROPERTIES PECULIAR TO H-3 COMPOUNDS. CHEMICAL REACTIONS, CHEMICAL ANALYSIS, RADIOCHEMICAL ANALYSIS, SAFETY, RADIOACTIVE TRACERS, CHEMICAL COMPOUNDS, H-3, RADIONUCLIDES, TRACERS, ANALYSIS, TAGGING, SCINTILLATION COUNTING, BIBLIOGRAPHY, FUNGI, PLANTS, TRITIATED COMPOUNDS, BACTERIA, FLOWERING PLANTS, BIOCHEMISTRY, INSECTS, ANIMALS, ALGAE, DISPOSAL, MEASUREMENT, METABOLISM

06489

L. R. ANSPAUGH, R. J. CHERTOK, B. R. CLEGG, J. J. COHEN, R. J. GRABSKE, P. L. HARRISON, R. E. HEFT, G. HOLLADAY, J. J. KORANDA, Y. C. NG, P. L. PHELPS, AND G. B. POTTER
UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.
BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50716. 75 P., 1969, 49 FIGS., 15 TABS., 22 REFS.

THE SCHOONER EVENT WAS A 31 KILOTON NUCLEAR CRATERING DETONATION EXECUTED ON 8 DECEMBER 1968 AT THE NEVADA TEST SITE. DURING AND IMMEDIATELY FOLLOWING THE EVENT A VARIETY OF FIELD EXPERIMENTS WERE CONDUCTED. AIRCRAFT SAMPLES OF THE CLOUD WERE ANALYZED TO DETERMINE RADIONUCLIDE AND MASS PARTITIONING AS A FUNCTION OF PARTICLE SIZE AND CLASS. FOURTEEN SEQUENTIAL AIR-SAMPLING STATIONS WERE FIELDIED TO STUDY THE DISTRIBUTION AND REDISTRIBUTION OF AIRBORNE PARTICULATES UP TO 6 WEEKS FOLLOWING THE EVENT. CONSIDERABLE REDISTRIBUTION OF DEBRIS WAS FOUND, WITH THE STATIONS INITIALLY UPWIND RECORDING VERY HIGH ACTIVITY FOUR DAYS AFTER DETONATION. PIGS WERE STATIONED AT FOUR SITES IN THE FIELD FOR STUDIES OF THE FATE OF RADIONUCLIDES INHALED AND INGESTED UNDER FIELD CONDITIONS. FALLOUT TRAYS AND H-3 SNIPPERS WERE FIELDIED TO DOCUMENT THE MASS DEPOSITION AND RADIONUCLIDE SPECIFIC ACTIVITY OF FALLOUT MATERIAL AND THE H-3 CONTENT OF THE BASE-SURGE CLOUD. IN A JOINT PROJECT WITH FLOWSHARE DIVISION, MORE THAN 300 PARACHUTE-BORNE AIR SAMPLERS WERE DROPPED THROUGH THE CLOUD TO DETERMINE THE TOTAL CLOUD BURDEN. TWO HIGH-VOLUME DEBRIS SEPARATORS AND COLLECTORS WERE FIELDIED TO COLLECT LARGE AMOUNTS OF DEBRIS FROM THE BASE-SURGE CLOUD FOR LABORATORY EXPERIMENTS ON THE BIOLOGICAL AVAILABILITY OF RADIONUCLIDES IN FALLOUT DEBRIS. SEVERAL ADDITIONAL FIELD AND LABORATORY EXPERIMENTS WERE BEGUN AFTER DETONATION. WITH DEBRIS COLLECTED FROM THE BASE-SURGE CLOUD AS WELL AS WITH CRATER-LIP MATERIAL, EXPERIMENTERS ARE DETERMINING THE BIOLOGICAL AVAILABILITY OF THE NUCLIDES TO AQUATIC ANIMALS IS BEING ASSESSED. AN ECOLOGY PROGRAM WAS BEGUN IN THE IMMEDIATE VICINITY OF STUDY THE HALF-RESIDENCE-TIMES OF RADIONUCLIDES IN SOILS, PLANTS, AND ANIMAL LIFE. SURVEYS OF THE RESIDUAL SOIL CONTAMINATION AND IN SITU BIOLOGICAL AVAILABILITY OF RADIONUCLIDES ARE ALSO BEING CONDUCTED AT DISTANCES 50 MILES FROM GROUND ZERO. MANY OF THESE EXPERIMENTS ARE CONTINUING PROJECTS. THIS REPORT SUMMARIZES PRELIMINARY FINDINGS AND INDICATES THE DIRECTION OF CONTINUING EFFORTS. SCHOONER EVENT, NUCLEAR EXPLOSIONS, DOMESTIC ANIMALS, NUCLEAR CLOUDS, EXPLOSIONS, RADIONUCLIDES, PIGS, ANIMALS, H-3, FALLOUT, COWS, CLOUDS, LIVESTOCK, MAMMALS, AVAILABILITY, SAMPLING, INGESTION, INHALATION, FLOWSHARE-PROGRAM, NEVADA TEST SITE, EQUIPMENT, W-181, AS-74, RU-103, FALLOUT FIELD, I-131, BA-LA-140, CB-141, W-187, AU-196, PARTICLES, CONCENTRATION, EJECTA, TISSUES, Y-88

06490

ROY M. CHATTERS AND EDWIN A. OLSON, COMPS.
WASHINGTON STATE UNIVERSITY, PULLMAN, WASH.
RADIOCARBON AND TRITIUM DATING. PROCEEDINGS OF THE 6TH INTERNATIONAL CONFERENCE, HELD AT WASHINGTON STATE UNIVERSITY, PULLMAN, WASH., 7-11 JUNE 1965.
U.S. AEC REPORT CONF-650652. 800 P., 1965, FIGS., TABS., REFS.
U.S. AEC CONTRACT NO. AT(45-1)-353.

73 PAPERS ARE INCLUDED ON- RADIOCARBON PROCESSING AND COUNTING; RADIOCARBON DATING IN NEW WORLD ARCHAEOLOGY; RADIOCARBON DATING IN EUROPEAN ARCHAEOLOGY; TREE RINGS AND RADIOCARBON DATING; PREPARATION AND COUNTING OF H-3; H-3 AND RADIOCARBON IN THE ATMOSPHERE AND OCEAN; CARBON-14 AND H-3 IN HYDROLOGY; AND RADIOCARBON DATES IN GEOLOGIC CHRONOLOGIES. INVITED ADDRESSES ON- NATURAL RADIOCARBON AND H-3 IN RETROSPECT AND PROSPECT; PROBLEMS IN THE ESTABLISHMENT OF A C-14 AND H-3 LABORATORY; AND THE IMPACT OF RADIOCARBON DATING UPON ARCHAEOLOGY ARE ALSO INCLUDED. RADIOACTIVE AGE DETERMINATION, GROWTH RINGS, RADIOCHEMICAL ANALYSIS, CHEMICAL ANALYSIS, ATMOSPHERE (TERRESTRIAL), H-3, RADIONUCLIDES, C-14, ARCHAEOLOGY, HYDROLOGY, ANALYSIS, OCEANS, GEOLOGY, TREES, HALF-LIFE, ICE, COSMIC RADIATION, NUCLEAR EXPLOSIONS, RADIATION, HURRICANES, GROUND WATER, HYDROLOGY, RIVERS, PACIFIC OCEAN, OCEANS, ENVIRONMENTS, NATURAL RADIATION, WATER, SURFACE WATER, SOIL MOISTURE, SOILS, LAKES

06490

LUDWIG E. FEINENDEGEN
BURATOM, SERVICES DE BIOLOGIE, BRUSSELS, BELGIUM
TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE.
N.Y., ACADEMIC PRESS, X, 430 P., 1967, ILLUS., REFS. (TID-24138)

AN INTRODUCTION TO THE PHYSICS OF H-3 IS INCLUDED AND GENERAL FACTORS INFLUENCING THE INCORPORATION OF EXOGENOUS PRECURSORS IN INTACT ORGANISMS ARE DISCUSSED. OTHER CHAPTERS IN THE BOOK ARE- ORGANIC MOLECULES LABELED WITH H-3, THE COUNTING OF H-3, AUTORADIOGRAPHY, AND TOXICITY. THE SIGNIFICANCE OF LINEAR ENERGY TRANSFER IN DOSIMETRY IS DISCUSSED. THE IMPORTANCE OF CONSIDERING THE IONIZATION DENSITY ALONG A SINGLE TRACK AND THE RANGE SPECTRUM OF THE TRACKS FOR APPRAISING THE AMOUNT OF ENERGY ABSORBED IN BIOLOGICAL MATERIAL CONTAINING H-3 IS EMPHASIZED. METHODS OF CALCULATING ABSORBED DOSES OF H-3 ARE DESCRIBED. A FIGURE IS PRESENTED TO SHOW RELATIVE DEPOSITION OF ENERGY FROM H-3 BETA PARTICLES IN SPHERICAL VOLUMES CONTAINING H-3 DISTRIBUTED UNIFORMLY. VARIOUS ASPECTS OF RELATIVE BIOLOGICAL EFFECTIVENESS WITH REFERENCE TO STANDARD RADIATION ARE DISCUSSED. IN DETERMINING RBE OF H-3, DIFFERENT RADIOSENSITIVITIES OF CELL STRUCTURES AND VARIOUS TYPES OF CELLS MUST BE CONSIDERED. IT IS POINTED OUT THAT A SINGLE MAXIMUM PERMISSIBLE BURDEN OF H-3 IN AN ORGANISM CANNOT BE RECOMMENDED AS GENERALLY VALID FOR ALL LABELED COMPOUNDS. RADIOCHEMICAL ANALYSIS, CHEMICAL ANALYSIS, NUCLEIC ACIDS, TOXICITY, H-3, RADIONUCLIDES, TRACERS, MEDICINE, BIOLOGY, ANALYSIS, ORGANIC COMPOUNDS, AUTORADIOGRAPHY, TRITIATED COMPOUNDS, DOSE ESTIMATION, PHYSICS, BIOCHEMISTRY, BACTERIA, CARBOHYDRATES, CELLS, ANIMALS, FUNGI, CHROMOSOMES, DOMESTIC ANIMALS,

DNA, INSECTS, GASES, METABOLISM, MUTATION, PLANTS, FLOWERING PLANTS

06491

INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, AUSTRIA
TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. 2 VOLS. PROCEEDINGS OF THE SYMPOSIUM ON THE
DETECTION AND USE OF TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES, HELD IN VIENNA, 3-10 MAY
1961.

VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. 369, 439 P., 1962, FIGS., TABS., REFS. (STI/PUB/39)

THE FIRST FIVE SESSIONS OF THE SYMPOSIUM WERE DEVOTED TO THE USE OF H-3 IN HYDROLOGY, PHYSICS,
AND CHEMISTRY. SPECIAL EMPHASIS WAS LAID ON THE ROLE OF H-3 AS A TRACER IN HYDROLOGY, ESPECIALLY
IN THE STUDY OF WATER MOVEMENT. THE ESTABLISHMENT AND IMPROVEMENT OF COUNTING AND DETECTION TECHNIQUES
TO FACILITATE THE APPLICATION OF H-3 AS A TRACER WAS ANOTHER ASPECT DISCUSSED IN THIS PART OF THE
PROCEEDINGS. PAPERS WERE READ ON THE PREPARATION OF TRITIATED COMPOUNDS AND IT WAS GENERALLY AGREED
THAT FURTHER CLARIFICATION OF THE MECHANISM OF VARIOUS TECHNIQUES, AND OF THE WILZBACH GAS EXPOSURE
TECHNIQUE IN PARTICULAR, WOULD LEAD TO FURTHER DEVELOPMENTS IN THE SYNTHESIS OF A NUMBER OF H-3
COMPOUNDS IMPORTANT IN BIOLOGY. OTHER PAPERS WERE CONCERNED WITH H-3 APPLICATIONS TO STUDIES OF
THE MECHANISM OF SOME CHEMICAL REACTIONS TOGETHER WITH THE EFFECTS OF H-3 ISOTOPES. DURING THE
SECOND PART OF THE SYMPOSIUM THE BIOLOGICAL APPLICATIONS OF H-3 AND TRITIATED COMPOUNDS WERE DISCUSSED.

THESE INCLUDED GENERAL PROBLEMS CONNECTED WITH THE BIOLOGICAL USES OF H-3 AND THE RADIATION EFFECTS
OF H-3 ON LIVING ORGANISMS SUCH AS VIRUSES, BACTERIA AND CANCER CELLS. THE VALUE OF H-3 IN BIOLOGICAL
STUDIES BECAME APPARENT BECAUSE OF THE EASE WITH WHICH A LARGE NUMBER OF METABOLICALLY ACTIVE COMPOUNDS
SUCH AS HORMONES, VITAMINS AND OTHER IMPORTANT CONSTITUENTS IN THE BODY CAN BE LABELLED WITH H-3.

H-3 IS ALSO A WEAK BETA-EMITTER AND AUTORADIOGRAPHS OF TISSUES AND SINGLE CELLS CONTAINING H-3-LABELLED
COMPOUNDS ALLOW AN EXCELLENT LOCALIZATION OF THE TRACER. (AUTH.)

RADIOACTIVE TRACERS, CHEMICAL REACTIONS, RADIATION EFFECTS, CELLS, H-3, RADIONUCLIDES, HYDROLOGY,
PHYSICS, CHEMISTRY, TRACERS, TRITIATED COMPOUNDS, AUTORADIOGRAPHY, BIOLOGICAL SYSTEMS, TAGGING,
GEOPHYSICS, NEW ZEALAND, WATER, RAINWATER, MEDITERRANEAN, METHANE, DISTRIBUTION, SCINTILLATION
COUNTING, BIOCHEMISTRY, MAN, METABOLISM

06492

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MINISTRY OF HEALTH AND MEDICAL RESEARCH COUNCIL, RADIOLOGICAL PROTECTION SERVICE, BELMONT, SURREY,
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THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS.

IN- ASSESSMENT OF RADIOACTIVITY IN MAN. VOL. II. PROCEEDINGS OF THE SYMPOSIUM, HELD IN HEIDELBERG,
11-16 MAY 1964. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 419-430, 1964, 1 FIG., 4 TABS.,
8 REFS. (STI-PUB/84)

WE HAVE FOR SOME TIME BEEN MONITORING THE URINE OF USERS OF THESE TRITIATED COMPOUNDS AND
HAVE MADE COMPLEMENTARY MEASUREMENTS OF H-3 IN AIR. THE STABILITY OF THE COMPOUNDS THEMSELVES
HAS ALSO BEEN INVESTIGATED. EIGHT COMPOUNDS HAVE BEEN TESTED BUT WORK HAS BEEN CONCENTRATED ON
THE TWO WHICH ARE IN ACTUAL USE IN BRITISH INDUSTRY. URINE FROM EMPLOYEES OF SEVEN FIRMS HAS BEEN
MONITORED BUT ONLY FOUR OF THESE FIRMS ARE LARGE-SCALE USERS OF TRITIATED COMPOUNDS. INTERPRETATION
OF THE RESULTS IS COMPLICATED BECAUSE THE ICRP RECOMMENDS TWO DIFFERENT MAXIMUM PERMISSIBLE BODY
BURDENS FOR HTO, 2 MC AND 1 MC/ THE CORRESPONDING CONCENTRATIONS OF H-3 IN URINE, ASSUMING THE
BODY TO CONTAIN 4.3×10^4 (4) ML OF WATER, ARE 4.7×10^4 (MINUS 2) AND 2.3×10^4 (MINUS 2) MICRO C/ML
RESPECTIVELY. EMPLOYEES AT ALL FOUR MAJOR FACTORIES WERE FOUND TO HAVE H-3 IN THEIR URINE, ONE
PERSON ATTAINING A CONCENTRATION OF OVER SIX TIMES THE LOWER MAXIMUM PERMISSIBLE LEVEL. A NUMBER
OF OPERATORS AT TWO FACTORIES ARE STILL MAINTAINING CONCENTRATIONS OF 1-2 TIMES THE MAXIMUM PERMISSIBLE
LEVEL. THE MAIN HAZARD APPEARS TO BE DUE TO THE INHALATION OF HTO VAPOUR WHEN THE COMPOUND IS MIXED
WITH ITS SOLVENT AND ADHESIVE. A NEW TESTS FOR THE STABILITY OF THE COMPOUNDS IN MOIST AIR HAS
THEREFORE BEEN DEvised. UNDER THE CONDITIONS OF THE TEST, THE TWO COMPOUNDS IN MAJOR USE LOSE
0.1 AND 0.5% OF THEIR H-3 RESPECTIVELY IN THE FIRST 2 1/2 H, MAINLY AS TRITIATED WATER. THE BIOLOGICAL
HALF-LIFE OF THE TRITIATED WATER IN TWO LUMINIZERS WAS FOUND TO 12.1 AND 13.4 RESPECTIVELY, WHICH
IS IN REASONABLE AGREEMENT WITH THE 12 D ASSUMED BY THE INTERNATIONAL COMMISSION ON RADIOLOGICAL
PROTECTION (ICRP). (AUTHS.)

MAXIMUM PERMISSIBLE CONCENTRATION, CHEMICAL COMPOUNDS, HAZARDS, H-3, RADIONUCLIDES, WATER, URINE,
MAN, INHALATION, TRITIATED WATER, TRITIATED WATER VAPOR, TRITIATED COMPOUNDS, RADIATION EXPOSURE,
BODY BURDEN

06493

P. B. BUTLER

B. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S.C.

ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS.

IN- ASSESSMENT OF RADIOACTIVITY IN MAN. VOL. II. PROCEEDINGS OF THE SYMPOSIUM, HELD IN HEIDELBERG,
11-16 MAY 1964. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 431-442, 1964, 7 FIGS., 1 TAB.,
15 REFS. (STI/PUB/84)

U.S. ABC CONTRACT NO. AT(07-2)-1).

THE H-3 BIOASSAY PROGRAM AT THE SAVANNAH RIVER PLANT IS GEARED FOR RAPID URINALYSIS OF LARGE
NUMBERS OF SAMPLES. MORE THAN 300,000 URINE SAMPLES HAVE BEEN ANALYZED IN THE PAST TEN YEARS.

A LIQUID SCINTILLATION COUNTING PROCEDURE CURRENTLY USED FOR ANALYSIS OF URINE SAMPLES IS DESCRIBED.
UNTREATED SAMPLES CONTAINING AS LITTLE AS 1 MICRO C OF H-3 PER LITRE CAN BE ASSAYED IN ONE MINUTE.

THE DETECTION LIMIT FOR DISTILLED URINE IS 5×10^4 (MINUS 4) MICRO OF H-3 PER LITRE. AUTOMATION
OF EQUIPMENT, OPTIMUM SCINTILLATION MIXTURE AND SAMPLE VOLUMES, SELECTION OF REAGENTS AND COUNTING
CONTAINERS, AND ELIMINATION OF INTERFERING RADIONUCLIDES ARE DISCUSSED. EMPIRICAL STUDIES OF BIOLOGICAL
HALF-LIFE ARE SUMMARIZED. IN 310 CASES WHERE THE INITIAL H-3 CONCENTRATION IN URINE RANGED FROM
20 TO 118 MICRO C/L THE AVERAGE BIOLOGICAL HALF-LIFE WAS 9.5 D. THE HALF-LIFE VARIED INVERSELY
WITH AMBIENT TEMPERATURE AND AGE OF EMPLOYEES. (AUTH.)

SCINTILLATION COUNTING, RADIOCHEMICAL ANALYSIS, CHEMICAL ANALYSIS, BIOLOGICAL HALF-LIFE, HALF-LIFE,
H-3, RADIONUCLIDES, MAN, URINE ANALYSIS, ANALYSIS, SAVANNAH RIVER PLANT, URINE, BIOASSAY

06494

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STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS
AND WITH S-35-014), S-35- METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID
AND SOIL.

IN- RADIOSOTOPES IN SOIL-PLANT NUTRITION STUDIES. PROCEEDINGS OF THE SYMPOSIUM, HELD IN BOMBAY,
26 FEBRUARY - 2 MARCH 1962. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 115-133, 1962, 6 FIGS.,
1 TAB., 75 REFS. (STI/PUB/55)

PARALLEL TO A GENERAL SURVEY OF THE AMINO-ACID DISTRIBUTION IN VARIOUS ORGANIC SEDIMENTS AND
HUMIC-ACID FRACTIONS, STUDIES WERE UNDERTAKEN REGARDING THE MODE OF LINKAGE OF THE AMINO ACIDS
WITHIN THE HUMIC-ACID MOLECULE. BY RADIOCOLUMN-CHROMATOGRAPHIC FRACTIONATION OF PAPAIN-DIGESTED
C-14 AND H-3-HUMIC-ACID SAMPLES, IT COULD BE DEMONSTRATED THAT AT LEAST ONE-THIRD OF THE TOTAL
AMINO ACIDS WAS LIBERATED BY THE PROTEOLYTIC ENZYME, THUS PROVING THAT AT LEAST ONE- THIRD OF THE
AMINO ACIDS IN SOIL HUMIC ACIDS EXIST IN PEPTIDE- OR AMIDE LINKAGE. BY RECORDING THE ACTIVITY
INSTEAD OF THE NINHYDRIN- COLOUR, THE RESULTS ARE SAEGUARDED AGAINST AMINO ACIDS RELEASED FROM
THE ENZYME DUE TO AUTOLYSIS. THE IMPROVED EXPERIMENTAL APPARATUS FOR RADIOCOLUMN CHROMATOGRAPHIC
RECORDING OF C-14 AND H-3 SAMPLES IS DESCRIBED. (AUTH.)

NITROGEN COMPOUNDS, ORGANIC COMPOUNDS, HUMIC ACIDS, H-3, ACIDS, C-14, RADIONUCLIDES, S-35, INSTRUMENTS,
EQUIPMENT, AMINO ACIDS, SOILS, TAGGING, RADIOCHROMATOGRAPHY, CHROMATOGRAPHY

06496

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JOURNAL OF APPLIED PHYSIOLOGY, VOL. 10, PP 108-126, 1957, 16 FIGS., 10 TABS., 32 REFS.

USING H-3 WATER AS A TRACER IN MAN, WATER ABSORPTION THROUGH THE GASTROINTESTINAL TRACT BEGAN IN 2-9 MINUTES AND WAS COMPLETE IN 40-45 MINUTES. THE VOLUME OF WATER TRANSFERRED FROM THE INTESTINE TO THE INTESTINE TO THE BLOOD WAS LINEAR WITH TIME AND PROPORTIONAL TO THE VOLUME OF WATER INGESTED, WITHIN THE RANGE OF 100-1000 ML. WHEN EXPOSED TO HTO VAPOR VIA INHALATION, MAN ABSORBED THROUGH THE RESPIRATORY SYSTEM 98-99% OF THE ACTIVITY INSPIRED. THE ACTIVITY IN VENOUS BLOOD INCREASED SHARPLY DURING AND SHORTLY AFTER INHALATION EXPOSURE, AFTER WHICH IT DECLINED EXPONENTIALLY TO EQUILIBRIUM WITH A HALF-TIME OF ABOUT 12 MINUTES. THE AVERAGE DILUTION VOLUME IN FIVE EXPERIMENTS ON THREE NORMAL MALES WAS 62.2% AND THE BIOLOGICAL HALF-TIME OF H-3 IN BODY WATER OF EIGHT MALES ON AD LIBITUM WATER INTAKE AVERAGED 11.5 DAYS. AT EQUAL VAPOR PRESSURES MAN ABSORBED HTO INWARD THROUGH THE SKIN AT A RATE COMPARABLE TO THE RATE OF INSENSIBLE PERSPIRATION. HTO APPEARED TO DIFFUSE ACROSS THE INERT BARRIER OF THE OUTER SKIN WITH A HALF-TIME OF ABOUT 3 MINUTES. WHEN MAN WAS EXPOSED TO AN ATMOSPHERE CONTAINING HTO, THE HTO ENTERING THE BODY THROUGH THE TOTAL SKIN AREA WAS APPROX EQUAL TO THAT ENTERING THROUGH THE LUNGS. BOTH MAN AND RAT SLOWLY OXIDIZED INSPIRED HT TO HTO. THE RADIATION HAZARD FROM EXCHANGE OF H-3 WITH HYDROGEN OF THE TISSUES AFTER CHRONIC OR ACUTE EXPOSURE TO HTO WAS SMALL COMPARED TO THE HAZARD FROM THE AMOUNT OF HTO NECESSARY TO INDUCE THE ACTIVITY INTO TISSUE COMPONENTS. ON THE BASIS OF HUMAN DATA, THE MAXIMUM PERMISSIBLE BODY BURDEN OF H-3 WAS CALCULATED TO BE 3.7 MC, AND THE MAXIMUM PERMISSIBLE CONCENTRATIONS OF H-3 OXIDE IN AIR AND WATER FOR CONTINUOUS 24-HOUR EXPOSURE WAS ESTIMATED AT 5×10 (MINUS 6) MICRO C/ML AND 0.1 MICRO C/ML, RESPECTIVELY. (AUTHS.)

H-3, RADIONUCLIDES, MAN, PHYSIOLOGY, TOXICITY, TRACERS, RADIOACTIVE TRACERS, WATER, ABSORPTION, MAXIMUM PERMISSIBLE CONCENTRATION, SKIN, GASTROINTESTINAL TRACT, TRITIATED WATER, TRITIATED HYDROGEN, ANIMALS, METABOLISM, BIOASSAY, EXCRETION, HALF-LIFE, BIOLOGICAL HALF-LIFE, RETENTION, URINE, MICE, RODENTS, MAMMALS, BODY BURDEN

06586

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TRACER MEASUREMENT OF STREAM REGENERATION.

WASHINGTON, D.C., GPO. V, 86 P., 1969, 17 FIGS., 16 TABS., 27 REFS.

THIS REPORT DESCRIBES A NEW TECHNIQUE FOR ACCURATE AND FULLY INDEPENDENT DIRECT FIELD MEASUREMENT OF STREAM GAS EXCHANGE CAPACITY, BASED UPON THE SIMULTANEOUS USE OF TRACERS FOR DISPERSION AND FOR GAS EXCHANGE. THE FIELD TRACER METHOD FOR EVALUATING STREAM REGENERATION CAPACITY DEPENDS UPON A SERIES OF ANALOGIES AND THE SIMULTANEOUS USE OF 3 TRACERS, A FLUORESCENT DYE, A DISPERSION TRACER (TRITIUM) AND A GASEOUS TRACER (KRYPTON-85). THE DYE PROVIDES TIME OF FLOW AND INDICATES WHEN TO SAMPLE FOR THE TWO RADIOACTIVE TRACERS. THE TRITIUM, PRESENT AS TRITIATED WATER, PROVIDES A MEASURE OF THE TOTAL DISPERSION THAT HAS OCCURRED WITHIN A RIVER REACH. THE KRYPTON-85, PRESENT IN THE DISSOLVED STATE, UNDERGOES THE SAME DISPERSIONS, AND, ADDITIONALLY, IS LOST TO THE ATMOSPHERE THROUGH TUBULENT MIXING AND ESCAPE AT THE WATER SURFACE. IN ANY REACH OF STREAM, THE PERCENT OF DISSOLVED TRACER GAS THAT HAS BEEN LOST IS READILY AND SIMPLY EVALUATED ON THE BASIS OF THE UPSTREAM AND DOWNSTREAM CONCENTRATION RATIOS OF KRYPTON-85 AND TRITIUM. METHODS OF ANALYSIS FOR THE WATER CONCENTRATIONS OF BOTH RADIOTRACERS HAVE BEEN DEVELOPED AND ARE HIGHLY SENSITIVE AND ACCURATE, HENCE THE PERCENT LOSS OF TRACER GAS IN A RIVER REACH CAN BE QUITE ACCURATELY EVALUATED. FOLLOWING THE NECESSARY LABORATORY INVESTIGATIONS, THE FIELD TRACER METHOD FOR REGENERATION CAPACITY WAS DEMONSTRATED IN FULL SCALE FIELD STUDIES OF GAS EXCHANGE IN THE JACKSON RIVER, BETWEEN COVINGTON AND CLIFTON FORGE, VA.

WATER POLLUTION, RADIOACTIVE TRACERS, EXCHANGE REACTIONS, STREAMS, POLLUTION, TRACERS, REGENERATION, TECHNIQUES, H-3, RADIONUCLIDES, DYES

06596

H. P. ANDERSON AND W. E. SHEEHAN

MONSANTO RESEARCH CORP., MOUND LABORATORY, MIAMISBURG, OHIO

ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967.

MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1425. 35 P., SEPT. 1967,

3 FIGS., 12 TABS.

U.S. ABC CONTRACT NO. AT(33-1)-GEN-53.

THE CONCENTRATION OF RADIOACTIVE MATERIALS DETECTED IN THE ENVIRONMENT SURROUNDING MOUND LABORATORY, MIAMISBURG, OHIO IS PRESENTED FOR THE FIRST HALF OF 1967. THE AVERAGE CONCENTRATION OF RADIONUCLIDES FROM MOUND LABORATORY IN THE GREAT MIAMI RIVER AND IN THE ENVIRONMENTAL AIR (AVERAGE OF ALL ZONES) WAS WITHIN THE STANDARDS SPECIFIED BY THE ATOMIC ENERGY COMMISSION. (AUTHS.) (SUMMARIZED IN RAD. HEALTH DATA REPT., VOL. 9(4), PP. 238-240, 1968.)

MONITORING, ENVIRONMENTAL RADIATION, RADIATION, RADIONUCLIDES, H-3, PU-238, PO-210, RIVERS, ATMOSPHERE (TERRESTRIAL), GROUND WATER, WATER, MIAMI RIVER, SAMPLING

06597

H. P. ANDERSON AND W. E. SHEEHAN

MONSANTO RESEARCH CORP., MOUND LABORATORY, MIAMISBURG, OHIO

ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY.

MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1391. 20 P., MAR. 1967,

3 FIGS., 7 TABS.

U.S. ABC CONTRACT NO. AT (33-1)-GEN-53.

THE CONCENTRATION OF RADIOACTIVE MATERIALS DETECTED IN THE ENVIRONMENT SURROUNDING MOUND LABORATORY, MIAMISBURG, OHIO IS PRESENTED FOR THE SECOND HALF OF 1966 AND A SUMMARY IS PRESENTED FOR THE ENTIRE YEAR. THE CONCENTRATION OF RADIONUCLIDES FROM MOUND LABORATORY IN THE GREAT MIAMI RIVER AND IN THE ENVIRONMENTAL AIR WAS WITHIN THE STANDARDS SPECIFIED BY THE ATOMIC ENERGY COMMISSION. (AUTHS.) (SUMMARIZED IN RAD. HEALTH DATA REPT., VOL. 8(11), PP. 671-673, 1967.)

RADIONUCLIDES, ENVIRONMENTAL RADIATION, RADIATION, MONITORING, H-3, PLUTONIUM, METALS, POLONIUM, RIVERS, ATMOSPHERE (TERRESTRIAL), GROUND WATER, MIAMI RIVER, SAMPLING, WATER

06598

R. D. CADLE

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH, BOULDER, COLO.

ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 72, NO. 8, PP 2251-2253, 1967, 1 FIG., 1 TAB., 4 REFS.

TRITIATED METHANE IN THE ATMOSPHERE RESULTS FROM TROPOSPHERIC EXCHANGE OF METHANE WITH TRITIATED HYDROGEN THAT HAS MIXED DOWNWARD FROM THE STRATOSPHERE. SPECIFICALLY, IT IS SUGGESTED THAT METHYLENE MAY BE PRODUCED FROM METHANE BY ELECTRICAL DISCHARGES AND OTHER IONIZATION PROCESSES IN THE LOWER ATMOSPHERE. AN EXPERIMENTAL INVESTIGATION WAS PERFORMED TO DETERMINE WHETHER ANY ATMOSPHERIC CONSTITUENTS WOULD REACT PREPREFERENTIALLY WITH METHYLENE PREVENTING ITS REACTION WITH TRITIATED HYDROGEN. IT WAS CONCLUDED THAT IT IS HIGHLY UNLIKELY THAT REACTIONS OF METHYLENE PRODUCE TRITIATED METHANE IN THE ATMOSPHERE.

H-3, RADIONUCLIDES, METHANE, GASES, METHYLENE, ORGANIC COMPOUNDS, ATMOSPHERE (TERRESTRIAL), OXIDES, TRITIATED HYDROGEN, NITRIC OXIDE, TRITIATED METHANE, NITROGEN COMPOUNDS, PRODUCTION, TROPOSPHERE, STRATOSPHERE, NATURAL PRODUCTION

06599

W. R. BUSH

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER, ONTARIO, CANADA

TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-2594. 16 P., JUNE 1966

THIS LECTURE IS BASED ON VARIOUS TALKS ON THE RADIATION HAZARDS OF TRITIUM OXIDE WHICH HAVE BEEN GIVEN BY THE AUTHOR TO PROCESS OPERATORS AND SUPERVISORS, TO LABORATORY TECHNICIANS, AND TO MECHANICAL TRADESMEN. THE ABSORPTION OF TRITIUM OXIDE INTO THE BODY THROUGH THE SKIN AND LUNGS, ITS EXCRETION IN URINE, AND THE ADMINISTRATIVE CONTROLS (REMOVAL, CAUTION, MINOR AND NEGLIGIBLE) ARE DESCRIBED. THE CONCENTRATION OF TRITIUM IN AIR, EXPRESSED AS (MPC)A, AND THE RADIATION DOSE

RESULTING FROM A NUMBER OF (MPC)A-HOURS OF EXPOSURE ARE EXPLAINED. FINALLY, THE METHODS FOR PROTECTING AGAINST TRITIUM (VENTILATION, AIR-SUPPLIED MASKS, AND PLASTIC CLOTHING) ARE DISCUSSED. (AUTH.) H-3, RADIONUCLIDES, OXIDES, HAZARDS, WHOLE BODY EXPOSURE, ABSORPTION, RADIATION EXPOSURE, MAXIMUM PERMISSIBLE CONCENTRATION, SAFETY, SKIN, MAN

06600

P. J. BARRY

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER, ONTARIO, CANADA

SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-2045, (CRL-86). 18 P., MAY 1964, 6 TABS.

FIELD EXPERIMENTS TO MEASURE THE RATE OF DEPOSITION OF TRITATED WATER VAPOR AND RADIOIODINE VAPOR TO NATURAL SNOW SURFACES ARE DESCRIBED. THE METEOROLOGICAL APPLICATIONS OF THE RESULTS OBTAINED IN THE FIELD OF GASEOUS EXCHANGE BETWEEN ATMOSPHERE AND THE EARTH'S SURFACE SUCH AS FOR EXAMPLE IN EVAPORATION AND EVAPO-TRANSPIRATION ARE DISCUSSED. BY SIMULTANEOUSLY MEASURING THE RATES OF DEPOSITION OF TWO RADIOACTIVE TRACERS HAVING DIFFERENT MOLECULAR DIFFUSIVITIES IT HAS BEEN FOUND THAT MOLECULAR DIFFUSION PLAYS AN IMPORTANT ROLE IN ADDITION TO TURBULENT EDDY DIFFUSION, PRESUMABLY BECAUSE OF THE PRESENCE OF A LAMINAR SUBLAYER IN CLOSE PROXIMITY TO THE SURFACE. BY COMPARING THE RELATIVE TRANSFER RATES FOR THE TWO TRACERS IT IS POSSIBLE TO ESTIMATE THE THICKNESS OF THE LAMINAR SUBLAYER. (AUTH.)

RADIOACTIVE TRACERS, TRACERS, TRANSFER, H-3, RADIONUCLIDES, GASES, WATER VAPOR, PRECIPITATION (METEOROLOGICAL), IODINE, NONMETALS, SNOW, DEPOSITION, WATER, METEOROLOGY, ATMOSPHERE (TERRESTRIAL), EVAPORATION

06601

P. J. BARRY

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER, ONTARIO, CANADA

MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-1624 (CRER-1098). 45 P., 1962, 11 TABS., 25 REFS.

THE MAXIMUM PERMISSIBLE CONCENTRATIONS IN AIR OF VARIOUS BIOLOGICALLY SIGNIFICANT RADIONUCLIDES HAVE BEEN CALCULATED FOR MEMBERS OF THE PUBLIC WHO LIVE IN THE NEIGHBOURHOOD OF A NUCLEAR POWER REACTOR. THEY HAVE BEEN CALCULATED BOTH FOR CONTINUOUS EXPOSURE DURING ROUTINE REACTOR OPERATION AND ALSO FOR EMERGENCIES RESULTING FROM REACTOR ACCIDENTS. THE RECOMMENDATIONS ARE NOT INTENDED TO BE USED AS NORMAL HEALTH PHYSICS CONTROL LEVELS BUT TO SERVE AS A GUIDE TO REACTOR DESIGNERS.

THE PROBLEMS OF ATMOSPHERIC DIFFUSION ARE DISCUSSED AND VALUES FOR MAXIMUM PERMISSIBLE DISCHARGES OR DISCHARGE RATES ARE RECOMMENDED SO THAT THE MAXIMUM PERMISSIBLE CONCENTRATIONS IN AIR SHOULD NOT BE EXCEEDED. (AUTH.)

MAXIMUM PERMISSIBLE CONCENTRATION, NUCLEAR REACTORS, AIR POLLUTION, RADIONUCLIDES, EFFLUENTS, ACCIDENTS, I-131, SR-90, CS-137, C-14, H-3, KR-85, MAN, ORGANS, SR-89

06602

D. J. BROWN

ISOCHEM INC., RICHLAND, WASH.

MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION.

RICHLAND, WASH., ISOCHEM INC., ISO-SA-32. 15 P., 1967, 4 FIGS., 5 REFS. (ALSO IN STI/PUB/156

AND U.S. AEC REPORT CONF-670512-2)

U.S. AEC CONTRACT NO. AT (45-1)-1851.

A FIELD STUDY OF A PRODUCTION WASTE DISPOSAL SITE AT HANFORD TO DETERMINE THE UNDERGROUND MIGRATION CHARACTERISTICS OF RADIOSIOTOPES IN LIQUID WASTES. GROUND WATER SAMPLES FROM SOME WELLS SHOWED THAT THE CONCENTRATION OF SR-90 IS AT OR BELOW 10 (MINUS 6) MICROCI/CU CM. THE ONLY MONITORING WELLS WHICH SHOWED SR-90 PRESENT IN THE GROUND WATER WERE THOSE IN WHICH CONCENTRATIONS WERE DETECTED ON THE SOIL. LEACHING STUDIES SHOW THAT BOTH STRONTIUM AND CESIUM ARE RESORBED IN THE SATURATED ZONE AND MIGRATE AT VERY LOW CONCENTRATIONS. THE RADIONUCLIDES WHICH DO EVENTUALLY MIGRATE INTO THE GROUND WATER, WITH THE EXCEPTION OF H-3, RU-106, AND TC-99, ARE QUICKLY DISPERSED AND DIFFUSED (AND POSSIBLY RESORBED) IN THE SATURATED ZONE. RADIOCHEMICAL ANALYSES OF GROUND WATER SAMPLES SHOW THAT WITHIN A KM OF THE DISPOSAL SITES ALL NUCLIDES, EXCEPT THOSE NOTED, CANNOT BE DETECTED IN THE GROUND WATER USING THE MOST SENSITIVE ANALYTICAL METHODS. H-3, TC-99, AND RU-106 HAVE POOR SORPTION PROPERTIES AND MIGRATE AT ABOUT THE SAME RATE AS THE GROUND WATER. THE ABILITY TO DETECT THESE NUCLIDES, AT CONCENTRATIONS WELL BELOW THE DRINKING WATER LIMIT, USING ROUTINE ANALYTICAL METHODS PROVIDES A RELATIVELY EASY METHOD FOR DEFINING THE FLOW PATHS OF THE SLIGHTLY CONTAMINATED GROUND WATER. THE CONTAMINATION PLUMES, WHICH DEVELOP IN THE GROUND WATER AS H-3, TC-99, AND RU-106, MIGRATE AWAY FROM A DISPOSAL SITE AND ARE ROUTINELY MONITORED TO DETERMINE THE CONCENTRATION CHANGES WITH DISTANCE. (FROM AUTH. ABSTR.)

HANFORD PROJECT, WASTE DISPOSAL, RADIONUCLIDES, LEACHING, CS-137, RADIOACTIVE WASTE DISPOSAL, SEDIMENTS, MIGRATION, SR-90, H-3, RU-106, CONTAMINATION, GROUND WATER, WATER, TC-99, SOILS, CS-137, LEACHING

06603

H. JOHN BURKI AND S. OKADA

UNIVERSITY OF ROCHESTER, SCHOOL OF MEDICINE AND DENTISTRY, ROCHESTER, N.Y.

KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITATED THYMIDINE AT MINUS 196 DEGREES C.

RADIATION RESEARCH, VOL. 41, PP 409-424, 1970, 7 FIGS., 41 REFS.

U.S. AEC CONTRACT NO. AT (30-1)-1286.

DEOXYRIBONUCLEIC ACID OF MAMMALIAN CELLS (L5178Y) IN CULTURE WAS LABELED UNIFORMLY IN ONE OF THE FOLLOWING THREE WAYS- INCUBATION WITH TRITATED THYMIDINE FOR ONE GENERATION (UNIPILAR LABELING), INCUBATION WITH TRITATED THYMIDINE FOR FOUR GENERATIONS (BIPILAR LABELING), AND INCUBATION WITH TRITATED THYMIDINE FOR FOUR GENERATIONS PLUS ONE GENERATION WITHOUT TRITATED THYMIDINE (REVERSE UNIPILAR LABELING). THE CELLS WERE FROZEN AND STORED IN LIQUID NITROGEN. AFTER VARIOUS STORAGE TIMES, THEIR SURVIVALS WERE ESTIMATED. THE SURVIVAL CURVES OF CELLS WITH UNIPILAR LABELED DNA WERE APPROXIMATELY EXPONENTIAL. THE SURVIVAL CURVE OF THE CELLS WITH BIPILAR LABELED DNA WAS SIMILAR TO THAT OF THE UNIPILAR LABELED CELLS TO AROUND 20% SURVIVAL. BELOW 20% SURVIVAL, THE SLOPE OF THE SURVIVAL CURVE WAS GREATER BY A FACTOR OF 2 THAN THAT OF THE UNIPILAR LABELED CELLS. (AUTHS.)

H-3, RADIONUCLIDES, THYMIDINE, NUCLEIC ACIDS, ORGANIC COMPOUNDS, CELLS, MAMMALS, ANIMALS, RADIOACTIVE DECAY, TAGGING, DNA, MORTALITY, P-32, C-60, RADIATION EFFECTS, RADIATION DAMAGE

06604

YORITERU INOUE AND WARREN J. KAUFMAN

UNIVERSITY OF CALIFORNIA, SCHOOL OF PUBLIC HEALTH, BERKELEY, CALIF.

PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA.

HEALTH PHYSICS, VOL. 9, PP 705-715, 1963, 7 FIGS., 2 TABS., 5 REFS.

THE DISPOSAL OF RADIOACTIVE WASTES BY INJECTION INTO DEEP EARTH FORMATIONS REQUIRES THAT PREDICTIONS BE MADE OF THE RATE OF TRAVEL OF THE VARIOUS RADIOACTIVE CONTAMINANTS. THE TRANSPORT OF A CATIONIC RADIONUCLIDE THROUGH THE EARTH IS DETERMINED BY HYDRODYNAMIC CONVECTION, HYDRAULIC DISPERSION AND ION-EXCHANGE SORPTION. IF THE MANNER OF WATER MOVEMENT IS FIRST ASCERTAINED BY TRITATED WATER TRACER MEASUREMENTS AND THE EXCHANGE PROPERTIES ARE DETERMINED BY LABORATORY TESTS, IT IS POSSIBLE TO PREDICT THE ARRIVAL OF INDIVIDUAL RADIOISOTOPES AT SOME DISTANT POINT OF CONCERN. FOR THE PREDICTION THEORY TO BE FULLY APPLICABLE, THE FORMATION SHOULD BE REASONABLY HOMOGENEOUS, THE ISOTOPE DISTRIBUTION FACTOR SHOULD REMAIN CONSTANT, AND EXCHANGE EQUILIBRIA SHOULD PREVAIL AT ALL POINTS. IT IS ALSO DESIRABLE THAT THE HYDRAULIC FLOW NET REMAIN UNCHANGED. THE VALIDITY OF THE PREDICTION THEORY HAS BEEN TESTED WITH LABORATORY COLUMNS AND WITH A FIELD INVESTIGATION. THE FIELD TEST INVOLVED SEVERAL ARRAYS OF INJECTIONS AND RELIEF WELLS AND TWENTY-THREE OBSERVATION WELLS PENETRATING A CONFINED AQUIFER 100 FT BELOW THE EARTH'S SURFACE. THE RESULTS DEMONSTRATED THE THEORETICAL VALIDITY AND PRACTICAL UTILITY OF THE THEORY. (AUTHS.)

RADIONUCLIDES, TRANSPORT, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, H-3, RADIOACTIVE TRACERS, TRACERS, THEORY, CLAYS, SOILS, EQUATIONS, POROSITY, WATER, SR-89, SR-90, GROUND WATER, TRITATED WATER

MAXINE E HUTCHIN AND BURTON E VAUGHAN
U S NAVAL RADIOLOGICAL DEFENSE LABORATORY, BIOLOGICAL AND MEDICAL SCIENCES DIVISION, SAN FRANCISCO, CALIF

SKIN CONTACT TRANSFER OF TRITIUM FROM BRASS
HEALTH PHYSICS, VOL 11, PP 1047-1053, 1965, 3 FIGS, 2 TABS, 17 REPS

THE STUDIES REPORTED HERE SHOW THAT CONTACT OF SKIN WITH CONTAMINATED METAL CAN FACILITATE THE TRANSFER OF TRITIUM, THAT THE RADIOACTIVITY ABSORBED ONTO THE SKIN ENTERS THE BODY WATER AND THAT IT FOLLOWS THE METABOLIC PATTERN OF TRITIUM ENTERING BY OTHER MODES. TRITIUM IN THE SKIN WAS DETERMINED AFTER CONVERTING ALL FORMS TO TRITIATED WATER BY DRY COMBUSTION. STANDARDIZED EXPOSURES WERE CHECKED BY LIQUID SCINTILLATION COUNTING. CURVES FOR THE DISAPPEARANCE OF TRITIUM IN THE SKIN COULD BE RESOLVED INTO 0.3, 3 AND 14 DAY HALF-TIMES, AND AFTER 15 DAYS THERE WAS LITTLE DIFFERENCE BETWEEN WET AND DRIED TISSUES. THE ACCUMULATIVE EXCRETION CURVES, BASED ON THE MEASURED HALF-TIME VALUE OF 5.5 DAYS FOR URINE RADIOACTIVITY, SHOWED THAT SUBSTANTIALLY ALL OF THE SKIN RADIOACTIVITY CAN BE ACCOUNTED FOR IN BODY WATER BY 28 DAYS. SPECIAL METHODS WERE DEVELOPED FOR ASSAYING TRITIUM RELIABLY AT A MINIMUM LEVEL OF 2×10^{-10} (MINUS 3) MICROCI (AUTHS).
SKIN, H-3, RADIONUCLIDES, TRANSFER, BRASS, ABSORPTION, BODY WATER, WATER, HALF-LIFE, BIOLOGICAL HALF-LIFE, URINE, RATS, RODENTS, MAMMALS, ANIMALS

06606

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U S DEPT OF HEALTH, EDUCATION AND WELFARE, NATIONAL INSTITUTES OF HEALTH, BETHESDA, MD
A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS

ANALYTICAL BIOCHEMISTRY, VOL 31, PP 189-203, 1969, 2 FIGS, 3 TABS, 24 REPS

A COMBUSTION SYSTEM IS DESCRIBED WHICH MAKES POSSIBLE THE ROUTINE PREPARATION OF LARGE NUMBERS OF BIOLOGICAL SAMPLES FOR SCINTILLATION COUNTING. THE SYSTEM ACCEPTS A VARIETY OF SAMPLE MATERIALS, AND A METHOD IS PROVIDED FOR EVAPORATING TISSUE HOMOGENATE IN GELATIN OR PLASTIC CAPSULES. AN OPERATOR DROPS A CAPSULE IN THE FURNACE AND COLLECTS THE COMBUSTION PRODUCTS IN SCINTILLATION SOLVENT, READY FOR COUNTING, AT A RATE OF 1 SAMPLE EVERY 3 MIN. THE SYSTEM ACCEPTS SAMPLES OF AT LEAST 500 MG, LIMITED BY SOLVENT CAPACITY FOR WATER. A FAVORABLE COMPARISON WITH THE OXYGEN FLASK METHOD IS SHOWN AND THERE IS MINIMUM CARRYOVER OF ACTIVITY IN SUCCESSIVE SAMPLES. THE METHOD HAS A COLLECTION RECOVERY OF 96%, IS CALIBRATED BY INTERNAL STANDARDS, AND SHOWS A COEFFICIENT OF VARIATION OF 2.9% (AUTHS).

SCINTILLATION COUNTING, H-3, RADIONUCLIDES, EQUIPMENT, ANALYSIS, RADIOCHEMICAL ANALYSIS, CHEMICAL ANALYSIS, CHEMISTRY, PROTEINS, BIOCHEMISTRY, BIOASSAY

06607

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U S DEPT OF HEALTH, EDUCATION AND WELFARE, NATIONAL INSTITUTES OF HEALTH, BETHESDA, MD
A CARBON DIOXIDE COLLECTION ACCESSORY FOR THE RAPID COMBUSTION APPARATUS FOR PREPARATION OF BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION ANALYSIS

ANALYTICAL BIOCHEMISTRY, VOL 31, PP 204-210, 1969, 1 FIG, 1 TAB, 11 REPS

A CARBON DIOXIDE COLLECTION ACCESSORY IS DESCRIBED FOR THE PREVIOUSLY REPORTED COMBUSTION SYSTEMS FOR PREPARATION OF BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION COUNTING. A SAMPLE CAN BE BURNED AND COLLECTED EVERY 3 MIN. SAMPLE SIZE IS LIMITED BY THE CAPACITY OF THE SOLVENT TO ABSORB CARBON DIOXIDE WITHOUT PRECIPITATION. THE SYSTEM CAN BE USED FOR COLLECTING WATER AS WELL AS CARBON DIOXIDE, FOR DOUBLE ISOTOPE COUNTING. THE METHOD HAS A COLLECTION RECOVERY OF 97%, IS CALIBRATED BY INTERNAL STANDARDS, AND SHOWS A COEFFICIENT OF VARIATION OF 1.1% (AUTH).
CARBON DIOXIDE, LIQUID SCINTILLATION COUNTING, RADIOCHEMICAL ANALYSIS, CHEMICAL ANALYSIS, GASES, OXIDES, ANALYSIS, INSTRUMENTS, EQUIPMENT, TRITIATED WATER

06608

J R ELIASON
BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, RICHLAND, WASH
EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER, 1966
RICHLAND, WASH, BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, BNWL-432 19 P, JUNE 1967, 2 FIGS, 4 TABS, 3 REPS

ANALYTICAL RESULTS ARE PRESENTED FOR GROSS BETA ACTIVITY IN UNCONFINED GROUND WATER AQUIFERS AND GROSS BETA ACTIVITY IN GROUND WATER FROM WELLS. RESULTS ARE GIVEN WHERE CONCENTRATIONS OF RADIONUCLIDES ARE ABOVE THE ROUTINE DETECTION LIMIT OF 0.08 PICOCURIES/CC. AVG CONCENTRATIONS DETECTED DURING THE PREVIOUS REPORT PERIOD ARE LISTED. GROSS BETA ACTIVITY IS CALCULATED AS RU-RH-106. ANALYSIS WAS MADE AT SPECIFIC SITES FOR GROSS ALPHA, H-3, SR-90, AND CS-137. GROSS BETA AND H-3 ARE PLOTTED ON WATER CONTOUR MAPS AND ISO-CONCENTRATION LINES ARE DRAWN TO SHOW 2-DIMENSIONAL EXTENT AND DIRECTION OF CONTAMINATION SPREAD. GROUND WATER QUALITY NEAR DISPOSAL SITES HAS CHANGED DUE TO CONCENTRATION OF SALTS IN THE WASTE AND INDIRECTLY DUE TO THE DEGRADATION OF MINERALS IN THE SOIL BY THE WASTES. CONCENTRATIONS ON NONRADIOACTIVE MATERIALS IN THE GROUND WATER ARE BELOW THE PUBLIC HEALTH SERVICE RECOMMENDED DRINKING WATER LIMITS EXCEPT FOR NITRATE WHICH IS ABOVE 45 PPM.

GROUND WATER, WATER, RADIONUCLIDES, CONTAMINATION, RADIATION, H-3, HANFORD PROJECT, RADIOACTIVE WASTE DISPOSAL, BETA RADIATION, RU-RH-106, IONIZING RADIATION, NUCLEAR RADIATION, WASTE DISPOSAL, SR-90, CS-137, NITRATES, NITROGEN COMPOUNDS, INORGANIC COMPOUNDS

06609

G B KNIGHT AND B ADAIR
ATOMIC ENERGY OF CANADA LTD, CHALK RIVER, ONTARIO, CANADA
ANALYSIS OF EXTERNAL EXPOSURES IN 1966

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD, AECL-2678 16 P, 1967, 9 FIGS, 2 TABS, 3 REPS

AN ANALYSIS OF OCCUPATIONAL RADIATION EXPOSURES RECEIVED BY WORKERS AT AECL SITES IN 1966 HAS BEEN CARRIED OUT BY MACHINE ACCOUNTING METHODS. RESULTS ARE PRESENTED IN TABLES AND GRAPHS (AUTHS).

RADIATION EXPOSURE, WHOLE BODY EXPOSURE, GAMMA RADIATION, DOSIMETRY, BETA RADIATION, H-3, RADIONUCLIDES, MAN

06610

J C COREY AND J W PENIMORE
E I DU PONT DE NEMOURS AND CO, SAVANNAH RIVER LABORATORY, AIKEN, S C
TRACING GROUNDWATER WITH CHLORIDE IONS AND TRITIUM THROUGH ACID KAOLINITIC SOIL
INTERNATIONAL JOURNAL OF RADIATION AND ISOTOPES, VOL 19, PP 741-746, 1968, 4 FIGS, 13 REPS

U S AEC CONTRACT NO AT (07-2)-1

CHLORIDE IONS AND TRITIUM WERE COMPARED AS GROUNDWATER TRACERS FOR ACID SOILS CONTAINING KAOLINITIC CLAYS IN LABORATORY AND FIELD TESTS. THE BREAKTHROUGH FOR CHLORIDE WAS RETARDED MORE THAN THAT FOR TRITIUM, WHICH INDICATED THAT CHLORIDE IONS INTERACTED WITH THE ACID SOILS. THUS CHLORIDE AND OTHER NEGATIVELY CHARGED IONS HAVE LIMITED USEFULNESS AS WATER TRACERS IN ACID SOILS (AUTHS).
H-3, RADIONUCLIDES, CHLORIDES, INORGANIC COMPOUNDS, GROUND WATER, WATER, TRACERS, SOILS, CLAYS, KAOLINITIC SOILS

06611

JOHN C COREY AND J H MORTON
E I DU PONT DE NEMOURS AND CO, SAVANNAH RIVER LABORATORY, AIKEN, S C
MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND O-18 THROUGH ACIDIC KAOLINITIC SOIL
AIKEN, S C, E I DU PONT DE NEMOURS AND CO, SAVANNAH RIVER LABORATORY, DP-MS-67-55 25 P, NOV 1967, 3 FIGS, 2 TABS, 45 REPS

MISCIBLE DISPLACEMENT TECHNIQUES WERE USED TO COMPARE THE BEHAVIOR OF DEUTERIUM, TRITIUM, AND OXYGEN-18 AS WATER TRACERS. DISPLACEMENT OF A 170-ML PORTION OF TRIPLY TAGGED WATER THROUGH A 186-CM-LONG COLUMN OF WATER-SATURATED ACIDIC KAOLINITIC SOIL BY DISTILLED WATER REVEALED NO DIFFERENCES IN THE RELATIVE RATES OF MOVEMENT OF DEUTERIUM-, TRITIUM-, AND OXYGEN-18-TAGGED WATER (AUTHS) H-3, RADIONUCLIDES, O-18, DEUTERIUM, NONMETALS, TRACERS, WATER, SOILS, KAOLINITIC SOILS, CLAYS

06612

D H DENHAM
BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, RICHLAND, WASH
RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1968
RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, BNWL-1047 21 P,
JUNE 1969, 3 FIGS, 5 TABS, 6 REFS

AN EVALUATION OF RU-106 AND H-3 CONCENTRATIONS MEASURED IN THE GROUND WATER DURING THE LAST HALF OF 1968 SHOWS THAT THE ZONES OF DETECTABLE CONTAMINATION EXTEND IN A SOUTHEASTERLY DIRECTION FROM 200-B AREA. THE FEW LOCATIONS FROM WHICH GROUND WATER SAMPLES EXCEEDED THE RESPECTIVE CGS FOR RU-106 AND H-3 WERE ALL WITHIN EITHER THE 200-B OR 200-W AREAS OR THEIR RESPECTIVE FENCED DISPOSAL SITES. NO RADIOACTIVITY WAS DETECTED CONSISTENTLY DURING THIS REPORT PERIOD IN ANY CONFINED GROUND WATER AQUIFER MORE THAN 5 MILES DOWN-GRADIENT FROM THE 200 AREA DISPOSAL SITES. THE HIGHEST-AVERAGE MEASURED CONCENTRATION IN UNCONFINED GROUND WATER WITHIN OR NEAR THE 100 AREAS (WELL 699-71-77) WAS LESS THAN 10% OF THE CG FOR CR-51 (2000 P CI/ML). SOME NITRATE ION (NO 3) CONCENTRATIONS WERE ABOVE THE PUBLIC HEALTH SERVICE RECOMMENDED DRINKING WATER LIMITED OF 45 PPM (NO 3). IN GENERAL, GROUND WATER FLOW IS FROM THE CHEMICAL SEPARATION AREAS TO THE COLUMBIA RIVER (FROM AUTH SUM). H-3, RADIONUCLIDES, RU-106, GROUND WATER, WATER, CONTAMINATION, CR-51, HANFORD PROJECT, EFFLUENTS, NITRATES, NITROGEN COMPOUNDS, INORGANIC COMPOUNDS

06613

JAMES C DALY AND JACK J GABAY
NEW YORK STATE DEPT OF HEALTH, ALBANY, N Y
DIFFUSION OF TRITIATED MOISTURE FROM A STREAM
TRANSACTIONS OF THE AMERICAN NUCLEAR SOCIETY, VOL 12, PP 899-900, 1969, 1 FIG, 1 TAB
LIQUID WASTE EFFLUENTS, CONTAINING TRITIUM, ARE RELEASED INTO BUTTERMILK CREEK FROM A PLANT THAT REPROCESSES SPENT NUCLEAR FUEL ELEMENTS. A POINT ABOUT 3 MILES DOWNSTREAM FROM THE PLANT WAS SELECTED TO STUDY THE MIGRATION OF TRITIATED MOISTURE FROM THIS STREAM TO DETERMINE IF THE STREAM, WITH A RELATIVELY LOW TRITIUM CONCENTRATION, 1500 N CI/LITER, COULD CONTRIBUTE SIGNIFICANT AMOUNTS OF TRITIATED MOISTURE TO THE ATMOSPHERE AT POINTS SOME DISTANCE FROM THIS SOURCE (AUTHS) H-3, RADIONUCLIDES, STREAMS, ATMOSPHERE (TERRESTRIAL), MOISTURE, DIFFUSION, RADIOACTIVE WASTES

06614

D H EHRLICH AND A E BAINBRIDGE
NATIONAL CENTER FOR ATMOSPHERIC RESEARCH, BOULDER, COLO
A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE NATURE, VOL 209, NO 5028, PP 903-904, 1966, 1 FIG, 5 REFS
A STRONG PEAK IN THE H-3 CONTENT OF MOLECULAR HYDROGEN FROM AIR SAMPLES TAKEN AT HAMBURG, GERMANY IN OCT 1957 IS ATTRIBUTED TO THE REACTOR ACCIDENT AT WINDSCALE ON OCT 10-11, 1957. THE INCREASE BEGAN EITHER ON OCT 11 OR 12 AND THE FINAL RISE TO FULL MAX OCCURRED BETWEEN OCT 14 AND 16. THEREAFTER THE H-3 CONTENT DROPPED STEADILY TO ITS FORMER VALUE, WHICH WAS REACHED CA OCT 23.
CLOUDS, ACCIDENTS, ATMOSPHERE (TERRESTRIAL), GASES, HYDROGEN, GERMANY, RADIONUCLIDES, H-3, WINDSCALE, ENGLAND, POWER REACTORS, RELEASE

06615

J W PENIMORE
E I DU PONT DE NEMOURS AND CO, SAVANNAH RIVER LABORATORY, AIKEN, S C
TRACING SOIL MOISTURE AND GROUNDWATER FLOW AT THE SAVANNAH RIVER PLANT
AIKEN, S C, E I DU PONT DE NEMOURS AND CO, SAVANNAH RIVER LABORATORY, DP-MS-68-23 24 P,
MAR 1968, 14 FIGS, 7 REFS
U S AEC CONTRACT NO AT (07-2)-1
MANAGEMENT OF SOLID WASTE, LOW LEVEL LIQUID WASTE, AND HIGH LEVEL LIQUID WASTE IS SUMMARIZED IN REGARD TO GROUNDWATER FLOW. TRACING METHODS OF SOIL MOISTURE ARE DESCRIBED. THE GEOHYDROLOGY OF THE PLANT SITE IS DESCRIBED.
GROUND WATER, WATER, SOIL MOISTURE, MOISTURE, WATER, H-3, DEUTERIUM, RADIONUCLIDES, NONMETALS, GEOLOGY, HYDROLOGY, SOILS, RADIOACTIVE WASTES, RADIOACTIVE WASTE DISPOSAL, TRACERS

06616

J J GABAY AND N I SAX
NEW YORK STATE DEPT OF HEALTH, DIVISION OF LABORATORIES AND RESEARCH, RADIOLOGICAL SCIENCES LABORATORY, ALBANY, N Y
A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM
ENVIRONMENTAL RESEARCH, VOL 2, PP 72-76, 1966, 1 FIG, 19 REFS
A TECHNIQUE FOR WIDE-AREA STACK EFFLUENT DISPERSION MAPPING IS DESCRIBED USING TRITIATED WATER AS A TRACER. THE SAMPLER CONSISTS OF INDICATING SILICA-GEL IN A FIBERGLASS-SCREEN BAG CONVENIENTLY PLACED IN THE FIELD ALONG SAMPLING LEGS RADIATING OUT FROM THE SOURCE. THE ADSORBED WATER VAPOR IS REMOVED FROM THE SILICA GEL BY VACUUM DISTILLATION AND THE TRITIUM CONTENT DETERMINED BY LIQUID SCINTILLATION COUNTING. THIS TECHNIQUE HAS BEEN USED SUCCESSFULLY TO DISTANCES 10 MILES FROM A SOURCE TO EXPERIMENTALLY DETERMINE THE C MAX A STACK EFFLUENT FROM A NUCLEAR FUELS REPROCESSING PLANT WHICH ALREADY CONTAINED SOME TRITIATED WATER. THIS CONCEPT SHOULD FIND MUCH USE IN PINPOINTING SOURCES OF SPECIFIC CONTAMINATION IN URBAN, SUBURBAN AND RURAL AREAS UNDER A WIDE VARIETY OF METEOROLOGICAL CONDITIONS (AUTHS) H-3, RADIONUCLIDES, CONTAMINATION, WATER, RADIOACTIVE TRACERS, TRACERS, STACK DISPERSION MAPPING, TECHNIQUES, NUCLEAR FUEL PLANTS, MAPPING, EFFLUENTS, DISPERSION, AIR SAMPLING

06617

E E HASKELL, JR, J S LEVENTHAL, AND W C BIANCHI
E E HASKELL, JR AND W C BIANCHI, U S DEPT OF AGRICULTURE, AGRICULTURAL RESEARCH SERVICE, FRESNO, CALIF, J S LEVENTHAL, UNIVERSITY OF CALIFORNIA, DEPT OF CHEMISTRY, AND INSTITUTE OF GEOPHYSICS, LOS ANGELES, CALIF
THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA
JOURNAL OF GEOPHYSICAL RESEARCH, VOL 71, NO 16, PP 3649-3659, 1966, 5 FIGS, 3 TABS, 21 REFS
THE TRITIUM CONTENT OF WATER FROM IRRIGATION WELLS ALONG TWO EAST-WEST TRAVERSE LINES WAS USED IN ESTIMATING GROUNDWATER VELOCITIES IN THE SAN JOAQUIN VALLEY. TRITIUM PEAKS DUE TO NUCLEAR WEAPONS TEST WERE IDENTIFIED WITHIN THE GROUND WATER BODY. THE ESTIMATED VELOCITIES WERE COMPARABLE WITH VELOCITIES EXPECTED IN THE COARSE PARTS OF THE AQUIFERS. THE RATIO OF TRITIUM IN THE WELL WATER TO THAT IN THE RAIN WAS INCONSISTENT WITH PREDICTED RECHARGE, INDICATING THAT RECHARGE WAS LOCALIZED AND THE WATER FLOWED TO THE SAMPLED WELLS THROUGH THE COARSE AQUIFERS (AUTHS) H-3, RADIONUCLIDES, IRRIGATION, GROUND WATER, WATER, CALIFORNIA, WELLS, VELOCITY, SAN JOAQUIN VALLEY, MOVEMENT, AQUIFERS, FALLOUT, RAINOUT, TRACERS

06618

D B HAWKINS AND B L SCHMALZ
U S ATOMIC ENERGY COMMISSION, IDAHO FALLS, IDAHO
ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION
IDAHO FALLS, IDAHO, U S ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDO-12043 46 P,
AUG 1965, 17 FIGS, 13 TABS, 14 REFS

PRECIPITATION, AND SURFACE AND GROUND WATER AT THE NATIONAL REACTOR TESTING STATION AND SURROUNDING AREAS IS PRESENTED. THESE DATA HAVE BEEN GATHERED TO APPRAISE THE EFFECT OF NRTS OPERATIONS ON THE SURROUNDING REGION AND TO ELUCIDATE THE HYDROLOGY OF GROUND WATER AT THE NRTS. IT IS SHOWN THAT THE PRESENT CONCENTRATION OF TRITIUM IN THE ENVIRONMENTAL WATER IS ABOUT 100 TIMES PRE-HYDROGEN-BOMB LEVELS. NRTS OPERATIONS HAVE NOT NOTICEABLY CONTRIBUTED TO THIS CONTAMINATION EXCEPT IN THE CASE OF GROUND WATER DOWN GRADIENT FROM THE CHEMICAL PROCESSING PLANT. TRITIATED WATER EMANATING FROM THE IDAHO CHEMICAL PROCESSING PLANT HAS BEEN DETECTED DOWN THE GROUND-WATER GRADIENT OVER AN AREA OF ABOUT 75 SQUARE MILES. A LOG-LOG PLOT OF TRITIUM CONCENTRATION VERSUS TIME PROVIDES A MEANS OF ESTIMATING FIRST ARRIVAL OF TRITIUM AT AN OBSERVATION WELL. THE TRITIUM CONCENTRATION IN GROUND WATER DECREASES EXPONENTIALLY WITH DISTANCE FROM THE POINT OF INJECTION. AN EMPIRICAL EQUATION HAS BEEN DERIVED WHICH DESCRIBES THIS FUNCTION. (AUTHS.)

H-3, RADIONUCLIDES, NATIONAL REACTOR TESTING STATION, GROUND WATER, WATER, HYDROLOGY, ENVIRONMENTAL RADIATION, CONTAMINATION, EQUATIONS, PRECIPITATION (METEOROLOGICAL), SNOW, SNAKE RIVER, COLORADO RIVER, COLUMBIA RIVER, RIVERS

06619

P. A. HUFF, W. B. BRADLEY, AND P. J. PETERIS
ILLINOIS STATE WATER SURVEY, URBANA, ILL.
STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS. 6TH PROGRESS REPORT
URBANA, ILL., ILLINOIS STATE WATER SURVEY, COO-1199-14. 25 P., JUNE 1967, 7 FIGS., 2 TABS., 19 REFS.

U.S. AEC CONTRACT NO. AT (11-1)-1199

DATA ON H-3 SAMPLING IN 1966 AND 1967 AND RADON SAMPLING IN 1967 ARE GIVEN. SPATIAL AND TIME SEPARATION BETWEEN AIR AND WATER SAMPLES USED PRECLUDES STRONG CORRELATION IN THE INVESTIGATION OF THE RELATION BETWEEN CONCENTRATION AND DEPOSITION OF RADIOACTIVITY IN RAINWATER AND AIR. STUDIES OF SELECTED 1963 STORMS IN WHICH HEAVY CONCENTRATIONS OF RAINOUT WERE MEASURED ARE DESCRIBED. THESE STUDIES ARE BEING CONDUCTED TO ANALYZE AIR TRAJECTORIES AND TO CLARIFY PROCESSES CONTROLLING RAINWATER. STUDIES OF THE TIME DISTRIBUTION OF RADIOACTIVITY AND CHEMICAL CONSTITUENTS IN RAINFALL DO NOT PERMIT ANY CONCLUSIONS TO BE DRAWN ON THE RADIOACTIVE INPUT PROCESSES IN CONVECTIVE STORMS BECAUSE TO DATE THE AMOUNT OF DATA ANALYZED IS INSUFFICIENT. A WORKSHOP ON H-3 APPLICATIONS IN ATMOSPHERIC SCIENCES IS DESIRED.

H-3, RADIONUCLIDES, SAMPLING, RAINOUT, WASHOUT, RADIATION, ILLINOIS, RAINFALL, PRECIPITATION (METEOROLOGICAL), DIFFUSION, WATER, RAINWATER, SURFACE WATER

06620

J. T. BARRACLOUGH, W. B. TEASDALE, J. B. ROBERTSON, AND R. G. JENSEN
U.S. GEOLOGICAL SURVEY, IDAHO FALLS, IDAHO
HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966
IDAHO FALLS, IDAHO, U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, IDO-22049. 105 P., 1967, 56 FIGS., 3 TABS., 12 REFS.

RESULTS OF SAMPLING WERE EVALUATED AND MAPPED. TWO BILLION GALLONS OF WATER WERE PUMPED DURING 1966 OF WHICH 40% WAS METERED AND RETURNED TO THE SNAKE PLAIN AQUIFER. A RECORD RUNOFF OF THE BIG LOST RIVER DURING 1965 AND 1966 INDUCED A LARGE AMOUNT OF RECHARGE TO THE SNAKE PLAIN AQUIFER. THE RECHARGE CAUSED WATER LEVELS TO RISE AS MUCH AS 8 FT., BUT APPARENTLY DID NOT HAVE A GREAT EFFECT ON THE CONCENTRATIONS OF WASTE PRODUCTS IN THE GROUND WATER. PRESSURE TRANSMISSION, OR MASS TRANSFER EFFECTS FROM THE RECHARGE, WERE OBSERVED AS FAR AS 50 MILES SOUTHWEST OF THE RIVER. TRITIUM IS THE PRIMARY RADIOACTIVE WASTE PRODUCT DISCHARGED TO THE SUBSURFACE. THE DISTRIBUTION OF WASTE TRITIUM IN THE SNAKE PLAIN AQUIFER WAS MAPPED, AND BACKGROUND LEVELS WERE DETERMINED TO RANGE FROM 0.05 TO 0.1 PCI/ML. WASTE TRITIUM IN WATER FROM THE SNAKE PLAIN AQUIFER WAS DETECTED 4 1/2 MILES SOUTH OF THE ICPP. AN ESTIMATED MASS BALANCE OF TOTAL TRITIUM REMAINING IN THE SNAKE PLAIN AQUIFER IS PRESENTED FOR THE TRA AND ICPP AREAS. ABOUT 21,500 CI OF TRITIUM AT THE ICPP AND ABOUT 3,700 CI AT THE TRA HAVE BEEN DISPOSED FROM 1952 THROUGH 1966. ABOUT 14,000 CI AND 2,700 CI OF TRITIUM, RESPECTIVELY, SHOULD REMAIN AFTER RADIOACTIVE DECAY. SIMILAR AMOUNTS ARE INDICATED TO BE PRESENT IN THE GROUND WATER. DISSOLVED CHROMIUM WAS USED TO TRACE TRA POND WASTE WATER IN PERCHED GROUND-WATER BODIES AND DOWNGRADIENT 2 1/2 MILES IN THE SNAKE PLAIN AQUIFER. NATURAL FLUORIDE IN THE WATER OF THE SNAKE PLAIN AQUIFER WAS USED TO TRACE THE GROUNDWATER FLOW DOWNGRADIENT FROM THE NORTHEAST END OF THE SNAKE RIVER PLAIN. A SEISMIC SURVEY WAS USED TO MAP SURFACE SEDIMENT THICKNESS. (FROM AUTH. ABSTR.)

NATIONAL REACTOR TESTING STATION, RADIOACTIVE WASTES, H-3, HYDROLOGY, WASTE DISPOSAL, RADIONUCLIDES, CHROMIUM, GROUND WATER, WATER, AQUIFERS, SAMPLING, GEOLOGY, SNAKE RIVER, RIVERS, TRACERS, SR-90, I-131, CS-137, ZR-NB-95

06621

J. T. BARRACLOUGH, W. B. TEASDALE, AND R. G. JENSEN
U.S. GEOLOGICAL SURVEY, IDAHO FALLS, IDAHO
HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965
IDAHO FALLS, IDAHO, U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION, IDO-22048. 117 P., FEB 1967, 46 FIGS., 3 TABS., 10 REFS.

GROUND- AND SURFACE-WATER SAMPLES WERE COLLECTED FOR CHEMICAL AND RADIOMETRIC ANALYSES. THE RESULTS WERE EVALUATED AND MAPPED. GROUNDWATER LEVELS WERE ALSO MONITORED AND MAPPED. PUMPAGE AND WASTE DISPOSAL DATA ARE GIVEN. A RECORD FLOOD OF THE BIG LOST RIVER ENABLED RECHARGE EFFECTS, INFILTRATION RATES, VERTICAL PERCOLATION RATES, AND PRESSURE TRANSMISSION TO BE DETERMINED. STUDIES OF AIR FLOW IN THE ZONE OF AERATION WERE CONTINUED. STUDY OF INTERNAL FLUID FLOW IN WELLS SHOWED THAT NO CONSISTENT FLOW DIRECTION EXISTS. THE NATURAL GAMMA SPECTRA OF ROCKS WERE DETERMINED. SEISMIC EFFECTS ON WELL HYDROGRAPHS WERE EVALUATED. EFFECTS OF RADIOACTIVE-WASTE DISPOSAL TO PONDS AND WELLS ARE DESCRIBED AND MAPPED. TRITIUM IS THE ONLY WASTE RADIONUCLIDE AT NRTS THAT CAN READILY BE DETECTED IN GROUND WATER AT SIGNIFICANT DISTANCES FROM POINTS OF DISPOSAL. TRITIUM CONCENTRATIONS IN GROUND WATER DECREASED PRINCIPALLY BECAUSE LESS WASTE WAS DISCHARGED. THE TRITIUM FRONT IN THE AQUIFER LIES ABOUT 4 MILES SOUTH OF THE IDAHO CHEMICAL PROCESSING PLANT (ICPP). DISPOSAL WELL STRONTIUM-90 HAS ALSO BEEN DETECTED IN GROUND WATER ALMOST HALF A MILE SOUTH OF THE DISPOSAL WELL. (AUTHS.)

NATIONAL REACTOR TESTING STATION, RADIOACTIVE WASTE DISPOSAL, H-3, HYDROLOGY, WASTE DISPOSAL, RADIONUCLIDES, GROUND WATER, WATER, SR-90, SNAKE RIVER, RIVERS, AQUIFERS, SAMPLING, GEOLOGY

06622

WALTER G. VERLY
UNIVERSITY OF LIEGE, BELGIUM
TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES [TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS]
VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. 56 P., 1960, 3 FIGS., 2 TABS., 143 REFS. (STI/PUB/15/2)

OF THE DIFFERENT METHODS USED FOR ASSAYING TRITIUM, LIQUID SCINTILLATION AND GAS COUNTINGS ARE THE MOST USEFUL. THE DIFFERENT WAYS OF PREPARING TRITIATED COMPOUNDS, BIOLOGICAL AND CHEMICAL SYNTHESIS AND EXCHANGES, ARE DESCRIBED. IN A FEW BIOLOGICAL EXPERIMENTS, TRITIUM HAS BEEN USED TO TRACE THE PATH OF HYDROGEN ATOMS, MORE OFTEN, IT WAS A LABEL FOR A WHOLE MOLECULE OR PART OF IT. IN THE LATTER CASE, ITS SUPERIORITY TO C-14 RESTS ON THE BASE OF TRITIATED COMPOUNDS PREPARATION BY EXCHANGE, ON THE HIGHER SPECIFIC ACTIVITIES ATTAINABLE AND ON THE LOW COST OF THE ISOTOPE. ISOTOPE SELECTION MAY OCCUR AND DISTURB THE EXPERIMENTAL RESULTS, BUT IT CAN ALSO BE USED TO DETECT NEW BIOCHEMICAL PATHWAYS. AT THE CELLULAR LEVEL, TRITIUM YIELDS THE MOST PRECISE AUTORADIOGRAMS BECAUSE OF THE LOW ENERGY OF ITS BETA RADIATION, USING SPECIFIC LABELLED PRECURSORS IS A MEANS OF STUDYING THE BIOCHEMISTRY OF A SINGLE CELL. THE POSSIBLE UTILIZATION OF TRITIUM IN RADIOTHERAPY AND THE HAZARDS INVOLVED BY ABSORPTION OF THE ISOTOPE ARE DISCUSSED. (AUTH.)

H-3, RADIONUCLIDES, TAGGING, CHEMICAL REACTIONS, ANALYSIS, CHEMICAL REACTIONS, RADIOCHEMICAL ANALYSIS, CHEMICAL ANALYSIS, ISOTOPE EXCHANGE, BIOCHEMISTRY, APPLICATIONS

H VON BUTTLAR, K FARZINE, AND H -D WOHLFAHRT
INSTITUT FÜR TECHNISCHE KERNPHYSIK DER TECHNISCHEN HOCHSCHULE, DARMSTADT, GERMANY
TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE
NUCLEAR INSTRUMENTS AND METHODS, VOL 37, PP 288-292, 1965, 7 FIGS , 11 REFS

SAMPLE WATER IS CONVERTED TO HYDROGEN GAS AND THEN REACTED WITH ETHYLENE TO YIELD ETHANE
THE TRITIUM RADIOACTIVITY IS COUNTED IN AN OESCHGER-TYPE COUNTER IN THE LIMITED PROPORTIONAL REGION
A TRANSISTORIZED ELECTRONIC CIRCUIT ALLOWS SIMULTANEOUS REGISTRATION OF TRITIUM COUNTS PLUS BACKGROUND
BELOW, AND MAINLY BACKGROUND ABOVE ABOUT 15 KEV WITH A GEOMETRIC VOLUME OF THE CENTRAL TRITIUM
COUNTER OF 2.9 L THE ANTICOINCIDENCE BACKGROUND IS 2.74 PLUS OR MINUS 0.03 CPM IN THE TRITIUM CHANNEL,
A SAMPLE OF 100 TU HAS A SAMPLE COUNTING RATE OF 1.32 CPM WHEN THE ETHANE PRESSURE IS 150 MM HG
DETAILS ABOUT BACKGROUND, TRITIUM SPECTRUM, EFFICIENCY, RELIABILITY, AND LONG-TIME STABILITY ARE
GIVEN THE TRITIUM CONCENTRATIONS OF WATER SAMPLES FROM THE RHINE AND MAIN RIVER TAKEN BETWEEN
1961 AND 1964 SHOW PRONOUNCED MAXIMA IN THE SUMMER, ABOUT TWO MONTHS LATER AND A FACTOR OF 5 SMALLER
THAN THE RAIN MAXIMA WINTER MINIMA DIPPER BY A FACTOR OF 2 (AUTHS)
H-3, RADIONUCLIDES, RIVERS, RADIOCHEMICAL ANALYSIS, ANALYSIS, ETHANE, CHEMICAL ANALYSIS, ORGANIC
COMPOUNDS, ETHYLENE, WATER, GERMANY, EQUIPMENT

06624
PHILIPPE LEBLOUX, ANDRE ARDELLIER, AND SABY VALERO
COMMISSARIAT A L'ENERGIE ATOMIQUE, SACLAY, FRANCE
DETECTION DE LA CONTAMINATION DE L'AIR PAR LA VAPEUR D'EAU TRITIÉE AUPRES DE LA PILE EL 3 [DETECTION
OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR EL 3]
SACLAY, FRANCE, COMMISSARIAT A L'ENERGIE ATOMIQUE, CEA-R-3617 42 P , SEPT 1968, 23 FIGS , 3 TABS ,
6 REFS

DESCRIBES APPARATUS USED FOR THE DETECTION OF TRITIATED WATER VAPOUR CONTAMINATION IN AIR
AROUND REACTOR EL 3 APPARATUS CONSISTS OF TWO AIR-CIRCULATION IONIZATION CHAMBERS THE AIR IN
ONE OF THESE IS DRIED BY PASSAGE THROUGH A SILICA-GEL COLUMN BY CARRYING OUT A DIFFERENTIAL MEASUREMENT
OF THE IONIZATION CURRENTS, IT IS POSSIBLE TO MEASURE THE TRITIATED WATER VAPOUR CONCENTRATION
A THEORETICAL STUDY OF THE RESPONSE OF THE CHAMBERS IS CARRIED OUT FOR TWO TYPES OF EMISSION OF
THE TRITIATED WATER VAPOUR - CONTINUOUS, OR IN BURSTS
AIR POLLUTION, WATER VAPOR, NUCLEAR REACTORS, CONTAMINATION, THEORY, H-3, RADIONUCLIDES, GASES,
EQUIPMENT, POLLUTION, MONITORING, WATER, EQUIPMENT

06625
W S SNYDER, B R FISH, S R BERNARD, MARY R FORD, AND J R MUIR
OAK RIDGE NATIONAL LABORATORY, HEALTH PHYSICS DIVISION, OAK RIDGE, TENN
URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL
PHYSICS IN MEDICINE AND BIOLOGY, VOL 13, NO 4, PP 547-559, 1968, 3 FIGS , 2 TABS , 18 REFS
DATA ON URINARY EXCRETION OF TRITIUM BY A 41-YEAR-OLD MALE WHO ACCIDENTALLY INHALED (OR INGESTED)
TRITIUM, PRESUMED TO BE IN THE FORM OF HTO, ARE PRESENTED ALONG WITH AN INTERPRETATION OF THESE
DATA AND AN ESTIMATE OF THE RADIATION DOSE DELIVERED TO TISSUES MEASUREMENTS OF LEVELS IN URINE
WERE MADE AS LONG AS 255 DAYS AFTER THE INTAKE OF THE TRITIUM THE DATA COULD BE REPRESENTED AS
A SUM OF TWO EXPONENTIAL TERMS, ONE WITH A HALF-LIFE OF ABOUT 9 DAYS, THE OTHER OF ABOUT 34 DAYS
THE TOTAL DOSE TO BODY WATER WAS ESTIMATED TO BE ABOUT 16 REM, THE LONG-TERM EXPONENTIAL CONTRIBUTING
ABOUT 2% OF THE TOTAL A TWO-COMPARTMENT MODEL WAS APPLIED TO THE DATA EQUATIONS WERE DERIVED
FOR THE AMOUNTS OF TRITIUM IN EACH COMPARTMENT, AND AN ESTIMATE WAS OBTAINED FOR THE TOTAL DOSE
IN ANY TISSUE, BASED ON A COMPARISON WITH THE CONTENT OF HYDROGEN IN THE TISSUE THIS METHOD OF
ESTIMATING THE DOSE MAY BE APPLICABLE FOR OTHER RADIONUCLIDES AND COMPOUNDS IT ASSUMES THE STABLE
ELEMENT AND ITS RADIOACTIVE ISOTOPE BEHAVE SIMILARLY, OR IDENTICALLY, IN THE BODY, BUT DOES NOT
INVOLVE ASSUMPTIONS CONCERNING THE MATHEMATICAL FORM OF THE RETENTION FUNCTION (AUTHS)
H-3, RADIONUCLIDES, WATER, URINE, EXCRETION, EQUATIONS, ANALYSIS, MAN, MODELS, WHOLE BODY EXPOSURE,
RADIATION EXPOSURE, MATHEMATICAL ANALYSIS, MATHEMATICAL MODELS, BLOOD, TISSUES, CONCENTRATION,
DOSE ESTIMATE

06626
EDWARD J LYNCH, STANLEY N DAVIS, AND GORDON L POSTLE
HAZELTON-NUCLEAR SCIENCE CORP , PALO ALTO, CALIF
TRANSPORT OF RADIONUCLIDES BY GROUND WATER- SOME THEORETICAL ASPECTS
PALO ALTO, CALIF , HAZELTON-NUCLEAR SCIENCE CORPORATION, HNS-1229-61 56 P , 1964, 13 FIGS , REFS
U S AEC CONTRACT NO AT (29-2)-1229
RADIONUCLIDES MAY BE TRANSPORTED BY FLOWING GROUNDWATER FROM THE SITE OF A NUCLEAR DETONATION
TO POINTS OF POTENTIAL WATER USE TO AID IN EVALUATING THE HAZARD FROM THIS CONDITION, AN ANALYSIS
OF WATER TRANSPORT AND CONTAMINANT MOVEMENT IS MADE HEREIN EQUATIONS ARE PRESENTED FOR PREDICTING
TRANSPORT TIME AND DISPERSION IN UNIFORM SYSTEMS THE EQUATIONS INDICATE THAT DISPERSION SHOULD
HAVE A NEGLIGIBLE EFFECT ON TRANSPORT TIME, EXCEPT FOR FLOW THROUGH A SINGLE SET OF PARALLEL FRACTURES
THIS IS AT VARIANCE WITH OBSERVED CASES OF DISPERSION IN GRANULAR ROCKS, AND SUGGESTS THAT GEOLOGIC
INHOMOGENEITIES MAY PLAY AN IMPORTANT ROLE METHODS FOR DETERMINING ANISOTROPY OF AQUIFER ROCKS
AND FOR MEASURING THE RETARDATION FACTOR IN PLACE NEED TO BE DEVELOPED (AUTHS)
RADIONUCLIDES, GROUND WATER, WATER, TRANSPORT, EQUATIONS, ROCK, NEVADA TEST SITE, TRACERS, H-3

06627
W F MERRITT AND P J PARSONS
ATOMIC ENERGY OF CANADA LTD , BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER, ONTARIO, CANADA
THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS
HEALTH PHYSICS, VOL 10, PP 655-664, 1964, 5 FIGS , 2 TABS , 8 REFS
HIGH-LEVEL WASTE-FISSION-PRODUCT SOLUTION CONTAINING 1000 CI WAS INCORPORATED INTO GLASS BLOCKS
AND THE BLOCKS BURIED FOR 3 YEARS IN SAND BENEATH THE WATER-TABLE THE EXPERIMENT HAS SHOWN THAT,
EVEN IN SATURATED SOIL WITH LOW EXCHANGE CAPACITY, THE METHOD OF DISPOSAL WAS SAFE AND THE ESCAPE
OF HAZARDOUS RADIONUCLIDES WAS WITHIN ACCEPTABLY LOW LIMITS (AUTHS)
RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, RADIONUCLIDES, GLASS

06628
E C MORRIS
E I DU PONT DE NEMOURS AND CO , SAVANNAH RIVER PLANT, AIKEN, S C
REMOTE TRITIUM AIR MONITORING SYSTEM
AIKEN, S C , E I DU PONT DE NEMOURS AND CO , SAVANNAH RIVER PLANT, DPSPU-67-30-1 10 P , APR
1967, 7 FIGS , 1 TAB , 4 REFS
U S AEC CONTRACT NO AT (07-2)-1

TRITIUM IS PRODUCED IN HEAVY-WATER-MODERATED REACTORS THROUGH NEUTRON CAPTURE BY DEUTERIUM
THE RATE OF TRITIUM PRODUCTION IS A FUNCTION OF NEUTRON FLUX AND IRRADIATION TIME ANY TRITIUM
OXIDE, SUBSEQUENTLY PRODUCED, IS RELEASED TO THE ATMOSPHERE READILY BY VAPORIZATION WHENEVER THE
MODERATOR IS EXPOSED, FOR EXAMPLE ON THE SURFACES OF FUEL BEING DISCHARGED THE ATTENDANT HEALTH
HAZARD IS ONE OF TRITIUM ABSORPTION EITHER DIRECTLY THROUGH THE SKIN OR THROUGH THE RESPIRATORY
SYSTEM THIS HAZARD IS BEST CONTROLLED BY THOROUGHLY TRAINING PERSONNEL, ACCURATELY KNOWING THE
CONDITIONS TO WHICH PERSONS ARE EXPOSED, AND PRESCRIBING PROPER PROTECTIVE CLOTHING AT THE SAVANNAH
RIVER PLANT, ALL THESE MEANS ARE USED TO PROVIDE EFFECTIVE CONTROL (AUTH)
WHOLE BODY EXPOSURE, RADIATION EXPOSURE, SAVANNAH RIVER PLANT, H-3, RADIONUCLIDES, HAZARDS, ABSORPTION,
MAN, NUCLEAR POWER,, EQUIPMENT

06629
K Z MORGAN, W S SNYDER, AND E G STRUXNESS
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN
HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965
OAK RIDGE, TENN , OAK RIDGE NATIONAL LABORATORY, ORNL-3849 275 P , 1965, FIGS , TABS , REFS

RECENT DATA AND FINDINGS ARE SUMMARIZED IN THE AREAS OF (1) RADIOACTIVE WASTE DISPOSAL, (2) RADIATION ECOLOGY, (3) RADIATION PHYSICS, (4) RADIATION DOSIMETRY, (5) INTERNAL DOSIMETRY, AND (6) HEALTH PHYSICS TECHNOLOGY.
RADIOACTIVE WASTE DISPOSAL, HEALTH PHYSICS RESEARCH REACTOR, ECOLOGY, WASTE DISPOSAL, RADIATION EFFECTS, DOSIMETRY, MEDICINE, RADIONUCLIDES, H-3, DOSE CALCULATION, PLUTONIUM, KRYPTON, STRONTIUM, SALT, SOILS, CS-137, FORESTS, CLINCH RIVER, RIVERS, FOOD-CHAINS, MAN, INTERNAL EXPOSURE

06630.

T. A. RAPTER
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH, INSTITUTE OF NUCLEAR SCIENCES, LOWER HUTT, NEW ZEALAND

REPORT ON THE WORK OF THE INSTITUTE OF NUCLEAR SCIENCES. ANNUAL REPORT NO. 4, MARCH 1, 1961 - FEBRUARY 28, 1962.

LOWER HUTT, NEW ZEALAND, DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH, INSTITUTE OF NUCLEAR SCIENCES, U.S. AEC REPORT NP-14825. 119 P., MAR. 1962, TABS., REFS.

RESEARCH WORK RESULTED IN THE PUBLICATION OF PAPERS ON PREVIOUS WORK CONCERNING RADIOACTIVE FALLOUT, C-13/C-12 AGE VARIATIONS, TRITIUM MEASUREMENTS, AND C-14 MEASUREMENTS. THE C-14 DUPLICATION EQUIPMENT WAS INSTALLED AND IS IN OPERATION ON A ROUTINE BASIS OF C-14 AGES. THE OLD EQUIPMENT IS BEING THOROUGHLY TESTED. PROGRESS WAS MADE IN CONSTRUCTION AND OPERATION OF AN AIR MASS SPECTROMETER FOR USE IN RADIOACTIVE WELL-LOGGING. THE COSMIC RAY EQUIPMENT IS FUNCTIONING WELL. RADIATION RESEARCH ENABLED A CLEARER UNDERSTANDING OF THE RADIOLYSIS OF AQUEOUS H₂O₂, AND A PROGRAM OF WORK BOTH PURE AND APPLIED WAS CARRIED OUT USING A 250-CO SOURCE. ACCELERATOR PHYSICS INSTRUMENTATION AND TESTING PROGRESSED TO THE STAGE WHERE ASSEMBLY OF EQUIPMENT, AND EXPERIMENTS USING A NEUTRON GENERATOR WILL BE POSSIBLE NEXT YEAR. (AUTH.)
RADIOACTIVE AGE DETERMINATION, EQUIPMENT, RADIONUCLIDES, C-14, H-3, FALLOUT, DEUTERIUM RADIATION, RADIATION, SAMPLING, WATER

06631

WILLIAM C. REINIG AND S. MARSHALL SANDERS, JR.
E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER LABORATORY, AIKEN, S.C.

ASSESSMENT OF TRITIUM IN MAN.

AIKEN, S.C., E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER LABORATORY, DP-MS-66-77. 16 P., APR. 1967, 3 FIGS., 3 TABS., 9 REFS. (ALSO CONF-670521-12)

U.S. AEC CONTRACT NO. AT (07-2)-1.

A STUDY OF TRITIUM EXCRETION AFTER AN INTAKE OF HTO SHOWED AN EXCRETION PATTERN WITH 3 EXPONENTIALS DURING A 415-DAY PERIOD. THE INTAKE OCCURRED WHEN AN ESTIMATED 45.7 MILLICURIES WAS ASSIMILATED BY AN EMPLOYEE IN A PROCESS AREA; THE EXACT CAUSE OF THE INTAKE WAS BELIEVED TO BE INHALATION.

RESULTS OF 88 URINALYSES ARE PRESENTED IN TABULAR FORM; THE CALCULATED AMOUNT OF H-3 IN URINE USING A MATHEMATICAL MODEL THAT IS DESCRIBED AND DISCUSSED ARE INCLUDED. THE USUAL PRACTICE OF ESTIMATING ABSORBED DOSE FROM THE 1ST EXPONENT OF THE EXCRETION CURVE RESULTED IN A GOOD APPROXIMATION OF THE DOSE FROM BODY-WATER H-3. IN THIS CASE, THE DOSE CONTRIBUTED BY ORGANICALLY BOUND H-3 WAS LESS THAN THAT CONTRIBUTED BY BODY-WATER H-3; THE DOSE TO AN INDIVIDUAL ORGAN WAS ASSUMED TO BE BETWEEN THESE TWO VALUES.

H-3, RADIONUCLIDES, SAVANNAH RIVER PLANT, ABSORPTION, URINALYSIS, CHEMICAL ANALYSIS, ANALYSIS, MATHEMATICAL MODELS, MODELS, MAN, WATER, CONCENTRATION, BODY WATER

06632

SAM A. THREEFOOT

TULANE UNIVERSITY, SCHOOL OF MEDICINE, NEW ORLEANS, LA.

SOME FACTORS INFLUENCING INTERPRETATION OF STUDIES OF BODY WATER AND ELECTROLYTES WITH ISOTOPIC TRACERS.

PROGRESS IN CARDIOVASCULAR DISEASES, VOL. 5, NO. 1, PP 32-54, 1962, 4 FIGS., 1 TAB., 109 REFS.

IT IS THE OBJECTIVE OF THIS REVIEW TO APPRAISE SOME OF THE PHYSICAL, CHEMICAL AND BIOLOGIC FACTORS WHICH INFLUENCE DETERMINATION OF VOLUME OF DISTRIBUTION OF BODY WATER AND ELECTROLYTES AND CALCULATED EXCHANGING ELECTROLYTE MASS, AND TO PRESENT SOME OF THE VALUES OBTAINED WITH PARTICULAR REFERENCE TO BIOLOGIC INFLUENCES ON ESTIMATION OF THESE PARAMETERS. TECHNIQUES FOR PREPARATION OF SAMPLES AND ASSAY OF TRACER HAVE VARIED WITH THE NEEDS OF EACH INVESTIGATION, METHODS OF CALIBRATION, INSTRUMENTS AVAILABLE, ISOTOPE OR ISOTOPES STUDIED AND ERA IN WHICH THE INVESTIGATION WAS PERFORMED.

WHILE EVALUATION OF THE ADEQUACY OF THESE METHODS FOR PARTICULAR STUDIES IS IMPORTANT, ONLY PERTINENT REFERENCES WILL BE MADE HEREIN. (AUTH.)

TRACERS, RADIOACTIVE TRACERS, BODY WATER, ELECTROLYTE, BIOLOGICAL EFFECTIVENESS

06633

INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, AUSTRIA

TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE. REPORT OF A PANEL.

VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. 83 P., 1967, FIGS., TABS., REFS. (TECHNICAL REPORT SERIES NO. 73; STI/DOC/10/73)

TRITIUM AND STABLE ISOTOPES IN PRECIPITATION, OCEANOGRAPHIC APPLICATIONS OF COSMIC RAY AND FALLOUT ISOTOPES, METEOROLOGICAL AND HYDROLOGICAL APPLICATIONS OF H-3 AND OTHER ISOTOPES, AND TECHNIQUES FOR THE COLLECTION AND ANALYSIS OF ISOTOPIC SAMPLES ARE DISCUSSED.

H-3, RADIONUCLIDES, HYDROLOGICAL CYCLING, ENVIRONMENTAL RADIATION, RADIATION, PRECIPITATION (METEOROLOGICAL), GROUND WATER, WATER, SAMPLING, METEOROLOGY, GLOBAL, COSMIC RADIATION, C-14, SI-32, FALLOUT, SAMPLING

06634

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER, ONTARIO, CANADA

ACTIVITIES OF THE BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER NUCLEAR LABORATORIES.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-2665. 56 P., FEB. 1967, FIGS., TABS., REFS.

ACTIVITIES OF THE LABORATORIES DURING 1966 ARE SUMMARIZED, INCLUDING THE EFFICIENCY OF RESPIRATORS FOR REMOVAL OF TRITIUM OXIDES AND THE MPC FOR EXPOSURE OF MAN TO TRITIUM OXIDE.

H-3, RADIONUCLIDES, URINALYSIS, RADIOCHEMICAL ANALYSIS, ANALYSIS, BODY BURDEN, CHEMICAL ANALYSIS, EQUIPMENT, MAN, OXIDES, RADIATION EXPOSURE

06635

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER, ONTARIO, CANADA

BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1966.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-3199. 41 P., NOV. 1966, FIGS., TABS., REFS.

CURRENT DATA ON THE CONCENTRATION OF TRITIUM IN PRECIPITATION AND RIVER WATERS AT SITES IN CANADA, ALASKA AND GREENLAND IS PRESENTED. THE SIMPLE MODEL (PR-B-77) OF THE SKIN PERMEABILITY BARRIER HAS BEEN EXTENDED TO TAKE ACCOUNT OF THE CLEARANCE OF TRITIATED WATER FROM THE DERMIS, DETECTOR FOR TRITIUM IN AIR, DETECTOR FOR TRITIUM IN WATER, URINALYSER FOR TRITIUM AND INTAKE OF TRITIATED WATER VAPOUR THROUGH THE SKIN. THE MONITORING OF OFF-SITE LIQUID DISPOSAL AREA AND EFFLUENTS IS SUMMARIZED.

H-3, RADIONUCLIDES, PRECIPITATION (METEOROLOGICAL), RIVERS, SKIN, ABSORPTION, WATER VAPOR, GASES, ATMOSPHERE (TERRESTRIAL), MODELS, COMPUTER MODELS, EQUIPMENT, MAN, SAMPLING

06636

J. E. JOHNSTON, ED.

UNITED KINGDOM ATOMIC ENERGY AUTHORITY, HARWELL, BERKSHIRE, ENGLAND

HEALTH PHYSICS AND MEDICAL DIVISION, PROGRESS REPORT, JANUARY-DECEMBER, 1967.

HARWELL, BERKSHIRE, UNITED KINGDOM ATOMIC ENERGY AUTHORITY, RESEARCH GROUP, AERE-PR/HPM-12. 61 P., 1968, 9 FIGS., 6 TABS., REFS.

INCLUDES STUDIES ON THE MECHANISM OF SORPTION OF TRITIUM ON METAL SURFACES, ITS REMOVAL, AND PRECUTANEOUS TRANSFER; AND TRANSPORT OF HTO VAPOR TO ROUGH SURFACES.

06637

DONALD E. WINBER
BROOKHAVEN NATIONAL LABORATORY, BIOLOGY DEPT., UPTON, N.Y.
EFFECTS OF INTRACELLULAR IRRADIATION WITH TRITIUM.
ADVANCES IN RADIATION BIOLOGY, VOL. 1, PP 85-115, 1964, 6 FIGS., 3 TABS., 87 REFS.

THE RADIOBIOLOGICAL EFFECTS PRODUCED BY INTRACELLULAR TRITIUM INCORPORATION ARE DISCUSSED. THE PHYSICAL PROPERTIES OF H-3 ARE REVIEWED AND THE EFFECTS OF BETA PARTICLES FROM H-3 INCORPORATED INTO CELLS ARE DESCRIBED. RESULTS ARE REPORTED FROM A NUMBER OF STUDIES USING TRITIATED NUCLEIC ACID PRECURSORS AS TRACERS. THESE INCLUDE STUDIES OF CHROMOSOME BREAKAGE, MUTATIONS, CELL POPULATION KINETICS, ROOT MORPHOGENESIS, THE TOXIC EFFECTS OF H-3 IN CELLS, THE EFFECTS OF H-3 ON DNA SYNTHESIS, AND COMPARATIVE STUDIES USING HTO AND TRITIATED THYMIDINE. H-3, RADIONUCLIDES, CELLS, RADIATION EFFECTS, NUCLEIC ACIDS, ORGANIC COMPOUNDS, BIOCHEMISTRY, REVIEW, MUTATION, CHROMOSOMES, MAN, TOXICITY, TRITIATED THYMIDINE, TRITIATED COMPOUNDS, KINETICS, DNA, ROOTS, PLANTS, ANIMALS, WATER, ALGAE, INSECTS, DIPTERA, DROSOPHILA, FLOWERING PLANTS, TRITIATED WATER

06711

R. L. CHARNELL, T. M. ZORICH, AND D. E. HOLLY
ISOTOPES-TREDEYNE, PALO ALTO LABORATORIES, CALIF.
BIENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL.
HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA.

COLUMBUS, OHIO, BATTELLE MEMORIAL INSTITUTE, COLUMBUS LABORATORIES, BMI-171-16. 74 P., 1969, 25 FIGS., 5 TABS., 27 REFS.
U.S. AEC CONTRACT NO. AT(26-1)-171.

THE EFFECTS OF HYDROLOGIC PROCESSES ON THE REDISTRIBUTION RADIONUCLIDES AROUND A NUCLEAR-EXCAVATED SEA-LEVEL CANAL WERE ANALYZED. A MODEL WAS FORMULATED THAT EVALUATES THESE EFFECTS IN TWO DISTINCT HYDROLOGIC REGIONS- THE FALLOUT ZONE AND THE CANAL CHANNEL. THE MODEL WAS DEVELOPED FOR APPLICATION TO PANAMA AND COLOMBIA. LACK OF PREEXCAVATION FIELD DATA FROM THESE SITES HAS REQUIRED THE USE OF SIMPLE MECHANISMS OF REDISTRIBUTION. IN ADDITION TO WATERSHED DIMENSIONS, THE SIMPLIFIED MODEL REQUIRES DATA ON THE FOLLOWING- SOIL DENSITY, POROSITY, PREEXCAVATION HYDROLOGY, LONG-TERM INFILTRATION RATES, DISTRIBUTION COEFFICIENT, DEPTH OF CHANNEL EXCAVATION, AND DEVICE EMPLACEMENT. THE PARAMETER MOST IMPORTANT TO RATE OF REMOVAL, THE DISTRIBUTION COEFFICIENT, MUST BE OBTAINED FROM FIELD MEASUREMENTS. (AUTHS.)

RADIONUCLIDES, RAINFALL, PRECIPITATION (METEOROLOGICAL), HYDROLOGY, MODELS, SEA-LEVEL CANAL, CANALS, COLOMBIA, PANAMA, CENTRAL AMERICA, SOUTH AMERICA, SOIL DENSITY, NUCLEAR EXCAVATION, H-3

06775

L. D. SAMUELS AND W. E. KISIELESKI
L. D. SAMUELS, U.S. PUBLIC HEALTH SERVICE, DIVISION OF RADIOLOGICAL HEALTH, ROCKVILLE, MD.; W. E. KISIELESKI, ARGONNE NATIONAL LABORATORY, ARGONNE, ILL.
TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE.
RADIATION RESEARCH, VOL. 18, PP 620-632, 1963, 8 FIGS., 1 TAB., 26 REFS.

FACTORS INFLUENCING THE EXPRESSION OF RADIOTOXICITY OF TRITIATED THYMIDINE IN THE MOUSE HAVE BEEN STUDIED, AND PARAMETERS FOR TOXICITY MEASUREMENT HAVE BEEN EVALUATED. UPTAKE AND RETENTION OF ACTIVITY WERE FOUND TO BE ONLY PARTIALLY RELATED TO TOTAL DOSE GIVEN AT A SINGLE TIME. DIVIDING OF DOSES INTO SERIAL PARTS INCREASED UPTAKE AND RETENTION, WHEREAS INCREASING THE SPECIFIC ACTIVITY OF TDH-3 USED OR INCREASING THE AGE OF THE ANIMAL DECREASED UPTAKE AND RETENTION. SEVERAL PARAMETERS FOR MEASURING RADIOTOXICITY OF TDH-3 WERE STUDIED, BUT CYTOLOGICAL DAMAGE TO TESTIS WAS FOUND MOST CONSISTENTLY AND PROPORTIONATELY RELATED TO EXPOSURE. IT IS SUGGESTED THAT TOXICITY OF TRITIATED THYMIDINE IS BEST RELATED TO UPTAKE AND RETENTION RATHER THAN TO ADMINISTERED INTRAPERITONEAL DOSE, AND THAT FACTORS INFLUENCING UPTAKE AND RETENTION MAY PLAY A MORE IMPORTANT ROLE IN EXPRESSED RADIOTOXICITY THAN HAS BEEN REALIZED. (AUTHS.)

H-3, RADIONUCLIDES, TRITIATED THYMIDINE, RADIOTOXICITY, TOXICITY, ANIMALS, MICE, RODENTS, UPTAKE, RETENTION, METABOLISM, TESTES, AGE, TRITIATED COMPOUNDS, TISSUES, WEIGHT, ORGANS, MAMMALS, RADIATION DOSE, RADIATION EXPOSURE

06776

R. V. OSBORNE
ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, CHALK RIVER, ONTARIO, CANADA
INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER.
HEALTH PHYSICS, VOL. 15, PP 155-156, 1968, 2 FIGS., 3 REFS.

THE MAGNITUDES OF RESPIRATORY INTAKE, NON-WETTED SKIN INTAKE, AND WETTED SKIN INTAKE THAT WOULD RESULT FROM TRITIATED WATER SPILLS UNDER SPECIFIED CONDITIONS OF- SURFACE AREA OF BODY; WETTED AREA; INTAKE RATE FOR SKIN; INTAKE BECAUSE OF BLOTTER EFFECT; SPECIFIC ACTIVITY OF WATER AND WATER VAPOR; RESPIRATION RATE; HUMIDITY OF AIR; HUMIDITY AT SKIN TEMPERATURE; TIME OF EXPOSURE, ARE DERIVED IN TERMS OF MATHEMATICAL RELATIONSHIPS. CONTRARY TO COMMON BELIEF, TRITIATED WATER VAPOR MAY PRESENT A GREATER HAZARD UNDER SOME CONDITIONS THAN TRITIATED WATER IN CONTACT WITH SKIN. H-3, RADIONUCLIDES, TRITIATED WATER, WATER, INTAKE RATE, UPTAKE, BLOTTER EFFECT, SPECIFIC ACTIVITIES, HUMIDITY, RESPIRATION RATE, WATER VAPOR, MAN, RATE, RADIATION EXPOSURE

06777

J. VENNART
RADIOLOGICAL PROTECTION SERVICE, BELMONT, SUTTON, SURREY, ENGLAND
THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS.
HEALTH PHYSICS, VOL. 13, PP 959-964, 1967, 11 REFS.

THE USE OF RADIOACTIVE LUMINOUS PAINTS GIVES RISE TO IRRADIATION OF LUMINESERS AND THE PUBLIC USING THE LUMINISED ARTICLES. WHERE THE PUBLIC IS CONCERNED, RADIONUCLIDES WHICH DO NOT PENETRATE RADIATIONS, SUCH AS TRITIUM AND PROMETHIUM-147, ARE MORE SUITABLE MATERIALS THAN RADIUM. EXPERIENCE IN THE UNITED KINGDOM OF MONITORING LUMINESERS FOR RADIUM AND TRITIUM IN THEIR BODIES IS REVIEWED AND DISCUSSED IN RELATION TO THE POSSIBLE USE OF PROMETHIUM-147. PRESENT CONDITIONS IN THE LUMINISING INDUSTRY ARE SUCH THAT THERE IS A NEED FOR REGULAR MONITORING OF WORKERS AND THE PROBLEMS CREATED BY TRITIUM AND PROMETHIUM-147 ARE SUFFICIENT TO RESTRICT THEIR USE, PROBABLY IN FAVOR OF RADIUM.

THERE IS THUS A CONFLICT BETWEEN WHAT IS DESIRABLE FROM THE POINT OF VIEW OF THE PUBLIC AND WHAT IS PRACTISED BY THE INDUSTRY. TO RESOLVE THIS DILEMMA, IT IS SUGGESTED THAT THE METHODS EMPLOYED FOR LUMINISING SHOULD BE BROUGHT UP TO MUCH HIGHER STANDARDS FOR CONTAINING THE RADIOACTIVE COMPOUNDS. (AUTH.)

H-3, PR-147, RA-226, RADIONUCLIDES, LUMINESERS, WATER, RADIATION, RADIOACTIVE LUMINOUS PAINTS, TRITIATED WATER, MAN, PAINTS, MONITORING, CONCENTRATION, RADIATION EXPOSURE

06778

L. W. WACHTEL, T. L. PHILLIPS, AND L. J. COLE
U.S. NAVAL RADIOLOGICAL DEFENSE LABORATORY, BIOLOGICAL AND MEDICAL SCIENCES DIVISION, SAN FRANCISCO, CALIF.
SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION STUDIES.
RADIATION RESEARCH, VOL. 28, PP 647-656, 1966, 2 FIGS., 1 TAB., 14 REFS.

THE EFFECT OF X-IRRADIATION ON THYMIDINE-H-3 INCORPORATION INTO KIDNEY CELLS (THYMIDINE INDEX) WAS MEASURED AT 4- TO 8-HR INTERVALS UP TO 96 HRS IN UNILATERALLY NEPHRECTOMIZED FEMALE WEANLING RATS. A SHARP DROP IN THE THYMIDINE INDEX OCCURRED DURING THE FIRST 16 HRS AFTER THE KIDNEY ONLY WAS IRRADIATED WITH 1000 RADS, AND ALSO AFTER THE KIDNEY WAS IRRADIATED WITH 125 RADS OR 500 RADS AT THE SAME TIME THE BODY RECEIVED 500 RADS. IRRADIATION OF THE BODY, BUT WITH THE KIDNEY COMPLETELY SHIELDED, HAD NO APPARENT INHIBITORY EFFECT ON KIDNEY THYMIDINE INCORPORATION. THE ABILITY OF THE IRRADIATED KIDNEY TO INCORPORATE THYMIDINE REAPPEARED IN 24 HOURS IF THE REMAINDER OF THE BODY WAS NOT IRRADIATED. WHEN BOTH THE BODY AND THE KIDNEY WERE IRRADIATED, RECOVERY OF THYMIDINE UPTAKE

DEPENDENT ON THE AMOUNT OF RADIATION RECEIVED BY EACH. AN EXPLANATION FOR THE ABOVE OBSERVATIONS IS OFFERED ON THE BASIS OF A POSTULATED SYSTEMIC FACTOR, THE FORMATION OR INDUCTION OF WHICH COULD BE AFFECTED BY RADIATION AND WHICH IS ESSENTIAL FOR THYMIDINE INCORPORATION IN THE KIDNEY. (AUTHS.) H-3, RADIONUCLIDES, TRITIATED THYMIDINE, X-IRRADIATION, RADIATION, KIDNEY, ORGANS, RADIATION DOSE, RATS, ANIMALS, UPTAKE, RODENTS, RADIATION EXPOSURE

06779

A. A. MOGHISSI, E. D. TOEBBER, J. E. REGNIER, M. W. CARTER, AND C. D. POSEY
A. A. MOGHISSI, E. D. TOEBBER, J. E. REGNIER, AND M. W. CARTER, U.S. PUBLIC HEALTH SERVICE, SOUTHEASTERN RADIOLOGICAL HEALTH LABORATORY, MONTGOMERY, ALA.; C. D. POSEY, GEORGIA DEPT. OF PUBLIC HEALTH, RADIOLOGICAL HEALTH SERVICE, ATLANTA, GA.
HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING.
HEALTH PHYSICS, VOL. 18, NO. 3, PP 255-261, 1970, 2 FIGS., 9 REFS.

THE SURVEY OF A LUMINOUS DIAL PAINTING PLANT IS DESCRIBED. UNDER THE CONDITIONS INVESTIGATED, SKIN CONTAMINATION WAS INDICATED AS A MAJOR MODE OF ENTRY OF TRITIUM INTO THE BODY OF THE WORKERS. A NEW UNIT, GRAM-LAMBERT (G-L) IS PROPOSED FOR COMPARISON OF RADIOACTIVE LUMINOUS PAINTS. IT IS SHOWN THAT THE BENEFIT OF THE PRODUCTION OF 1 G-MICRO L IS ASSOCIATED WITH THE RISK OF APPROXIMATELY 0.16 MRREM TO THE WORKERS STUDIED. A MAXIMUM TRITIUM ACTIVITY WHICH MAY BE PROCESSED BY A WORKER WITHOUT EXCEEDING THE MAXIMUM PERMISSIBLE BODY BURDEN IS PROPOSED. (AUTHS.)
H-3, RADIONUCLIDES, TRITIATED POLYMERS, LUMINOUS DIAL PAINT, RADIUM, SKIN CONTAMINATION, CONTAMINATION, RADIATION EXPOSURE, MAN, PAINTS, CONCENTRATION, GRAM-LAMBERT, MAXIMUM PERMISSIBLE CONCENTRATION, WATER, URINE, MONITORING, TISSUE, BODY WATER, DOSE ESTIMATION, BODY BURDEN

06780

WILLIAM C. GALEGAR AND MYRON W. DEGEER
W. C. GALEGAR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, SOUTH CENTRAL REGION, DALLAS, TEX.; M. W. DEGEER, U.S. ARMY, CORPS OF ENGINEERS, TULSA, OKLA.
MEASURING SUBSURFACE SPRING FLOW WITH RADIOTRACERS.
JOURNAL OF THE SANITARY ENGINEERING DIVISION, PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS, VOL. 95, NO. SA6, PP 1097-1103, 1969, 4 FIGS., 2 REFS.

TRITIUM IN THE FORM OF TRITIATED WATER WAS USED AS A TRACER TO DETERMINE THE NATURE OF SUBSURFACE SPRING FLOW OCCURRING IN THE ESTELLINE SPRING. BASED ON MEASUREMENTS OF TRACER DILUTION WITHIN THE SPRINGS CHIMNEY, IT WAS CONCLUDED THAT THE SPRING IS LEAKING SUBSURFACE AT A RATE OF 1 CU FT/SEC. SUBSURFACE LEAKAGE RETURNS TO THE RECEIVING STREAM, AT LEAST IN PART, 4000 FT DOWNSTREAM FROM THE SPRING AFTER A TRAVEL TIME OF CA. 20 DAYS.
H-3, RADIONUCLIDES, TRACERS, TRITIATED WATER, WATER, SPRINGS, SUBSURFACE FLOW, AQUIFERS, GROUND WATER

06781

W. D. CHISWELL AND G. H. C. DANCER
UNITED KINGDOM ATOMIC ENERGY AUTHORITY, RADIOCHEMICAL CENTRE, AMERSHAM, BUCKINGHAMSHIRE, ENGLAND
MEASUREMENT OF TRITIUM CONCENTRATION IN EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY BURDENS.
HEALTH PHYSICS, VOL. 17, PP 331-334, 1969, 3 FIGS., 2 TABS., 4 REFS.
A METHOD FOR THE ESTIMATION OF TRITIUM BODY BURDENS FROM THE TRITIUM CONCENTRATION IN EXHALED WATER VAPOR IS DESCRIBED. THE CONCENTRATION OF TRITIUM IN EXHALED WATER VAPOR FROM PERSONS CHRONICALLY EXPOSED TO THIS RADIONUCLIDE IS ESSENTIALLY THE SAME AS THAT IN URINE, AND MEASUREMENT OF TRITIUM IN BREATH SAMPLES IS A VALID AND SUFFICIENTLY ACCURATE METHOD FOR ESTIMATION OF BODY BURDENS. THE METHOD DESCRIBED IS THOUGHT TO BE MORE ACCEPTABLE THAN URINE SAMPLING IN THE CASE OF FACTORY WORKERS.
H-3, RADIONUCLIDES, URINE SAMPLING, BREATH SAMPLING, BODY BURDEN, MAN, EXHALED WATER VAPOR, DOSE ESTIMATION, BREATH, BODY WATER, WATER, CONCENTRATION, RADIATION, EXPOSURE, TRITIATED WATER

06782

RENATO BASERGA, HERMANN LISCO, AND WALTER E. KISIELESKI
NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, CHICAGO, ILL.
TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE.
RADIATION RESEARCH, VOL. 29, PP 583-596, 1966, 7 TABS., 32 REFS.
U.S. AEC CONTRACT NO. AT-(11-1)-1131.

THYMIDINE, A DEOXYNUCLEOSIDE WHICH IS EXCLUSIVELY INCORPORATED INTO NUCLEI OF CELLS SYNTHESIZING DNA IN PREPARATION FOR CELL DIVISION, WAS INJECTED INTO C X A F(1) MICE OF DIFFERENT AGES. WHEN LABELED WITH EITHER H-3 OR C-14, THYMIDINE INCREASED THE INCIDENCE OF TUMORS AND SHORTENED THE LIFE SPAN OF C X A F(1) MICE. THE INCIDENCE OF RARE TUMORS WAS PARTICULARLY INCREASED, WHILE TUMORS THAT ARE RELATIVELY FREQUENT IN THIS BREED OF MICE, SUCH AS LUNG TUMORS AND LYMPHOMAS, SHOWED A SHORTER INDUCTION TIME. THE LIFE-SHORTENING AND CARCINOGENIC EFFECTS OF RADIOACTIVE THYMIDINE WAS MORE EVIDENT AT HIGH DOSES (ABOUT 10 MICRO CI/GM OF BODY WEIGHT WITH H-3-THYMIDINE) AND IN MICE INJECTED AS NEWBORN THAN IN MICE INJECTED IN ADULT LIFE. RETENTION STUDIES SHOWED THAT RADIOACTIVITY INJECTED IN NEWBORN MICE COULD STILL BE DETECTED IN DNA OF SEVERAL TISSUES THREE YEARS LATER. (AUTHS.)

H-3, C-14, RADIONUCLIDES, DNA, MICE, TUMORS, TRITIATED THYMIDINE, ANIMALS, CARCINOGENIC EFFECTS, RETENTION, RODENTS, MAMMALS, UPTAKE, MORTALITY

06783

K. M. BOGDANOV, M. I. SHALNOV, AND I. M. SHUKKENBYERG
INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS.
BIOPHYSICS (USSR) (ENGLISH TRANSLATION OF BIOFIZIKA), VOL. 4(4), PP 58-67, 1960, 3 FIGS., 1 TAB., 7 REFS.

RESULTS OF THE STUDIES ON THE DYNAMICS OF TRITIUM METABOLISM IN THE WATER PHASE OF THE BODY AND IN THE STRUCTURAL ELEMENTS OF ORGANS AND TISSUES, PERFORMED WITH SINGLE ACUTE ADMINISTRATION OF TRITIUM OXIDE, ARE REPORTED. IN ADDITION TO DISCUSSING NEW METHODS DEvised FOR EXTRACTING THE TRITIUM FROM THE WATER PHASE OF THE ORGANISM AND FROM THE STRUCTURAL ELEMENTS OF ORGANS AND TISSUES, THE AUTHORS DERIVED A SYSTEM OF DIFFERENTIAL EQUATIONS DESCRIBING THE PATTERNS OF TRITIUM METABOLISM IN THE LIVING ORGANISM. THE EQUATIONS YIELDED SOLUTIONS WHICH ARE IN APPARENT AGREEMENT WITH EXPERIMENTAL FINDINGS.

H-3, RADIONUCLIDES, TRITIUM OXIDE, WATER, METABOLISM, BIOLOGICAL HALF-LIFE, MICE, ANIMALS, RATS, MAN, EXCRETION, SPECIFIC ACTIVITIES, BODY WATER, OXIDES, EQUATIONS, RODENTS, MAMMALS, ORGANS, HALF-LIFE

06784

CHESTER W. DELONG, ROY C. THOMPSON, AND HARRY A. KORNBERG
GENERAL ELECTRIC CO., RADIOLOGICAL SCIENCES DEPT., RICHLAND, WASH.
PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE.
AMERICAN JOURNAL OF ROENTGENOLOGY, RADIUM THERAPY AND NUCLEAR MEDICINE, VOL. 71, PP 1038-1045, 1954, 2 FIGS., 4 TABS., 24 REFS.
U.S. AEC CONTRACT NO. W-31-109-ENG-52.

THE PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE-LABELED WATER VAPOR WAS STUDIED IN MICE, RATS AND MAN. IN TERMS OF MICRO G WATER ABSORBED/CM (2)/MIN FROM A SATURATED WATER VAPOR ATMOSPHERE, THE RATES FOUND WERE: FOR MICE (ABDOMEN), 20 PLUS OR MINUS 5; RATS (ABDOMEN) 5.7 PLUS OR MINUS 1.1; MAN (FOREARM) 8.6 PLUS OR MINUS 1.7. A SINGLE TOTAL BODY EXPOSURE TO A HUMAN AT 70% RELATIVE HUMIDITY GAVE A RATE OF 18 MICRO G/CM (2)/MIN. THE RATE OF WATER VAPOR ABSORPTION IN THE RAT WAS FOUND TO BE DIRECTLY PROPORTIONAL TO WATER VAPOR PRESSURE. FOR A CONSTANT LEVEL OF ATMOSPHERIC TRITIUM OXIDE, ABSORPTION OF TRITIUM OXIDE WAS INDEPENDENT OF TOTAL WATER VAPOR PRESSURE. IT WAS SHOWN THAT FOR HUMANS THE RATE OF PERCUTANEOUS ABSORPTION OF TRITIUM FROM A TRITIUM OXIDE CONTAMINATED ATMOSPHERE IS ABOUT THE SAME AS THE RATE OF PULMONARY ABSORPTION FROM THE SAME ATMOSPHERE. (AUTHS.)
H-3, RADIONUCLIDES, TRITIUM OXIDE, PERCUTANEOUS ABSORPTION, MICE, RATS, PULMONARY ABSORPTION, ABSORPTION, ANIMALS, MAN, OXIDES, MAMMALS, SKIN, RODENTS, RADIATION EXPOSURE

B. J. FREDERICK
U.S. GEOLOGICAL SURVEY, OAK RIDGE, TENN.
LABELING LAKE WATER WITH TRITIUM.
INTERNATIONAL JOURNAL OF APPLIED RADIATION AND ISOTOPES, VOL. 14, PP 401-404, 1963, 2 FIGS., 3 TABS.

IN 1961, THE WATER OF LAKE MCMILLAN WAS LABELED WITH 150 CI OF TRITIUM IN THE FORM OF TRITIATED WATER FOR THE PURPOSE OF GATHERING INFORMATION CONCERNING RATE, DIRECTION AND VOLUME OF WATER MOVEMENT IN THE VALLEY. THE TECHNIQUES USED IN PACKAGING TRITIATED WATER TO FACILITATE SAFE HANDLING IN ENVIRONMENTAL LABELING OPERATIONS, AND PROCEDURES FOLLOWED IN LABELING A LARGE BODY OF WATER WITH A SMALL VOLUME OF TRITIATED WATER ARE DESCRIBED.
H-3, RADIONUCLIDES, WATER, LAKE MCMILLAN, LAKES, LABELING, TRACERS, RR, NEW MEXICO, HYDROLOGY, TRACERS

06786
D. E. REICHLER, P. B. DUNAWAY, AND D. J. NELSON
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS.
NUCLEAR SAFETY, VOL. 11, NO. 1, PP 45-55, 1970, 1 FIG., 2 TABS., 53 REFS.

THIS LITERATURE REVIEW WAS UNDERTAKEN FOR THE PURPOSE OF STUDYING THE UPTAKE AND TURNOVER OF RADIONUCLIDES BY MEANS OF BIOLOGICAL PROCESSES OCCURRING IN ORGANISMS AND DEVELOPING A TOOL FOR ASSESSING THE ECOLOGICAL CONSEQUENCES OF RADIOACTIVITY IN NATURE. THE REPORT ILLUSTRATES HOW THE CONTRASTING BIOLOGICAL COMPOSITION AND ECOLOGICAL PROCESSES OF DIFFERENT FOOD CHAINS MAY AFFECT THE SIGNIFICANT MODIFICATION OF RADIONUCLIDE CONCENTRATIONS FROM THE SOURCE TO MAN. COMPARISONS OF THE BIOLOGICAL HALF-LIVES OF RADIONUCLIDES IN DIFFERENT ANIMAL SPECIES ILLUSTRATE THE VARIABLE RETENTION TIMES OF EACH ISOTOPE AMONG DISSIMILAR SPECIES AND DIFFERENT ISOTOPES WITHIN THE SAME SPECIES. THE DATA CITED IN THIS SUMMARY FOR INVERTEBRATES, FISH, AND MAMMALS WERE SUMMARIZED FROM SEVERAL HUNDRED PUBLICATIONS.

H-3, RADIONUCLIDES, BIOLOGICAL PROCESSES, RETENTION, CONCENTRATION, INVERTEBRATES, FISH, AQUATIC LIFE, MAMMALS, ANIMALS, MAN, FOOD-CHAINS, UPTAKE, TURNOVER, BIOLOGICAL HALF-LIFE, HALF-LIFE, REVIEW, METABOLISM, EFFECTIVE HALF-LIFE, TERRESTRIAL

06787
JOE H. OSLOOND AND D. L. NEWCOMB
U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDAHO FALLS, IDAHO
RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO.
IDAHO FALLS, IDAHO, U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDO-12040 (SUPPL. 4).
16 P., APR. 1969, 6 FIGS., 11 TABS.

THE INFORMATION IN THIS REPORT INCLUDES DATA ON RADIOACTIVE WASTE ASSOCIATED WITH REACTOR OPERATIONS OR RESEARCH STUDIES AT THE NATIONAL REACTOR TESTING STATION DURING 1968. THE RADIOACTIVE WASTES ARE IDENTIFIED ACCORDING TO QUANTITY, PHYSICAL FORM, NUCLIDE CONTENT, AND THE INSTALLATION OR AREA ORIGINATING THE WASTE. RADIOACTIVE WASTE DATA FOR THE YEARS 1955 THROUGH 1967 ARE ALSO GIVEN IN SUMMARY FORM. A RADIOACTIVE LIQUID WASTE VOLUME OF 550 MILLION GALLONS CONTAINING 2382 CURIES OF ACTIVITY WAS DISCHARGED TO THE LITHOSPHERE DURING 1968. 9 RADIONUCLIDES WERE IDENTIFIED, INCLUDING TRITIUM WHICH CONTRIBUTED 1021 CURIES. THE TOTAL RADIOACTIVITY RELEASED TO THE ATMOSPHERE DURING 1968 WAS 146 THOUSAND CURIES. THE TOTAL SOLID WASTE VOLUME STORED OR BURIED DURING 1968 WAS APPROXIMATELY 490 THOUSAND CUBIC FEET HAVING AN APPROXIMATE RADIOACTIVE CONTENT OF 2 MILLION CURIES.

LITHOSPHERE, H-3, NATIONAL REACTOR TESTING STATION, RADIOACTIVE WASTE DISPOSAL, AR-41, XE-136, XE-137, KR-89, KR-88, MONITORING, WATER, RADIONUCLIDES, RADIOACTIVE WASTES, ATMOSPHERE (TERRESTRIAL), CR-51, CE-141, CE-144, SR-89, I-131, RU-103, RU-106, CO-60, SR-90, CS-137,

06788
BRUNO J. GILETTI AND J. LAURENCE KULP
COLUMBIA UNIVERSITY, LAMONT GEOLOGICAL OBSERVATORY, PALISADES, N.Y.
TRITIUM TRACER IN ARCTIC PROBLEMS.
SCIENCE, VOL. 129, PP 901-903, 1959, 1 FIG., 1 TAB., 10 REFS.

TRITIUM MEASUREMENTS IN THE ARCTIC OCEAN (BETWEEN 1954-55) CONFIRM A MARKED NEAR-SURFACE STRATIFICATION. SEA WATER AT 400 M DEPTH, HOWEVER, IS LESS THAN 3 YRS OLD, SUGGESTING A CONTRIBUTION TO THIS WATER MASS DUE TO SINKING ALONG THE CONTINENTAL SHELF. THE TOP ICE LAYER ON WARD HUNT ISLAND (NORTH OF ELLSMERE ISLAND) IS OLDER THAN 25 YRS. DOWNWARD SEEPAGE IN ARCTIC ICE MAY MAKE THE DATING OF PACK ICE DIFFICULT.

H-3, RADIONUCLIDES, TRACERS, SEA WATER, ICE, OCEANS, MIXING, EXCHANGE, ARCTIC OCEAN, RADIOACTIVE AGE DETERMINATION, TEMPERATURES, DEPTH

06789
DONALD M. SKAUVEN
UNIVERSITY OF CONNECTICUT, STORRS, CONN.
THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS. FINAL REPORT, JUNE 1, 1962 THROUGH JULY 31, 1964.
STORRS, CONN., UNIVERSITY OF CONNECTICUT, NYO-3039-1. 17 P., OCT. 1964, 12 TABS., 5 REFS.
U.S. ABC CONTRACT NO. AT(30-1)-3039.

AN ENVIRONMENT OF TRITIATED WATER DID NOT HAVE AN OBSERVED TOXIC EFFECT ON THE COMMON GUPPY. SOME FISH LIVED AS LONG AS TEN MONTHS IN THE TRITIATED WATER, AND LONG-TERM EFFECTS DUE TO THE BUILD UP OF TRITIUM IN THE FISH WERE NOT APPARENT. THERE WERE NO GENETIC CHANGES IN THE THIRD GENERATION OF FISH LIVING IN THE TRITIATED WATER. IT WAS APPARENT THAT THE AMOUNT OF TRITIUM IN THE FISH REACHED EQUILIBRIUM WITH THAT IN THE SURROUNDING WATER. ABOUT 90% OF THE TRITIUM PRESENT IN THE FISH WAS IN THE BODY WATER, AND ONLY 10% WAS ACTUALLY INCORPORATED IN THE BODY TISSUES. THE TURNOVER OF TRITIUM IN THE FISH MAY HAVE BEEN RAPID. FISH LIVING FOR THE LONGEST TIME IN TRITIATED WATER HAD LESS TRITIUM PRESENT THAN IN SOME OF THE OTHER EXPERIMENTS. IN THIS INSTANCE, THE AMOUNT OF TRITIUM IN THE WATER WAS LOWER DUE TO LOSS BY EVAPORATION OVER THE EXTENDED PERIOD OF TIME. THE TOLUENE DISTILLATION TECHNIQUE WAS USED FOR WATER REMOVAL FROM THE TISSUES IN GUPPIES PRIOR TO LIQUID SCINTILLATION COUNTING OF T(2)O IN BODY WATER AND FISH TISSUE RESIDUES. (NSA 19, NO. 33)

H-3, TRITIUM OXIDE, RADIONUCLIDES, ANIMALS, FISH, TOXIC EFFECTS, TRITIATED WATER, TOXICITY, LEBISTES, POECILIIDAE, OXIDES, BIOASSAY, UPTAKE, RETENTION

06790
H. P. ANDERSON AND W. B. SHEEHAN
MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MIAMISBURG, OHIO
ENVIRONMENTAL MONITORING REPORT- JULY-DECEMBER 1969 AND 1969 SUMMARY.
MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1616. 50 P., MAR. 1970, 3 FIGS., 11 TABS.

A COMPILATION OF THE CONCENTRATIONS OF RADIONUCLIDES DETECTED IN THE ENVIRONMENT SURROUNDING MOUND LABORATORY, MIAMISBURG, OHIO IS PRESENTED FOR THE SECOND HALF OF 1969, AND A SUMMARY IS PRESENTED FOR THE ENTIRE YEAR. THE AVERAGE CONCENTRATION OF RADIONUCLIDES FROM MOUND LABORATORY IN THE SURROUNDING ENVIRONMENT WAS WITHIN STRINGENT STANDARDS SPECIFIED BY THE ABC. FOR TRITIUM, THESE LIMITS ARE 2×10^{-10} MIBS 7 MICROCURIES PER CC IN AIR AND 3×10^{-10} MINUS 3 MICROCURIES PER CC IN WATER. THE RESULTS OF BOTH LIQUID AND AIRBORNE CONTAMINATION ARE PRESENTED. (SUMMARIZED IN RAD. HEALTH DATA REPT., VOL. 11(12), PP. 701-703, 1970.)

H-3, RADIONUCLIDES, ENVIRONMENTAL MONITORING, GREAT MIAMI RIVER, CONTAMINATION, RIVERS, MONITORING, WATER, ATMOSPHERE (TERRESTRIAL), PO-210, PU-238

06791
W. R. SCHELL

CALIP
INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC RESERVOIRS
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-71853 (CONF-690817-1)
38 P., APR 1969, 8 FIGS., 3 TABS., 32 REFS

A STUDY HAS BEEN STARTED TO DETERMINE THE CONCENTRATION OF AR-37 AND AR-39 IN ATMOSPHERIC SAMPLES. SINCE THESE RADIONUCLIDES ARE COSMIC-RAY PRODUCED, THE PRODUCTION RATE IN THE ATMOSPHERE AT ANY POINT SHOULD BE DEPENDENT ON THE COSMIC-RAY FLUX. THE CONCENTRATION IN SAMPLES COLLECTED SHOULD BE DEPENDENT ON THE PRODUCTION FROM COSMIC RAYS, THE PRODUCTION FROM NUCLEAR REACTORS AND NUCLEAR DETONATIONS, AND THE AIR MASS MOVEMENT. THE PAPER OUTLINES BASIC PROBLEMS IN ATMOSPHERIC RESERVOIR MIXING, AND HOW MEASUREMENT OF SAMPLES FOR COSMIC-RAY PRODUCED ARGON CAN BE UTILIZED IN ENVIRONMENTAL STUDIES. NEW TECHNIQUES WERE DEVELOPED TO SEPARATE AND MEASURE THE LOW SPECIFIC RADIOACTIVITY OF ARGON SAMPLES. OTHER GASEOUS RADIONUCLIDES PRESENT IN ENVIRONMENTAL AIR SAMPLES, HT, C-14, XB, AND KR, CAN BE MEASURED USING THE EQUIPMENT. DETAILS OF THE EQUIPMENT DESIGN ARE INCLUDED. THE FIRST RESULTS OF THE AR-37 CONCENTRATION INDICATE SUFFICIENT RADIOACTIVITY TO MEASURE BY HIGH-PRESSURE GAS COUNTING (AUTHS).
AR-37, AR-39, H-3, C-14, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), ATMOSPHERIC CONCENTRATION, RADIATION, COSMIC RADIATION, KRYPTON, RADIOACTIVITY, SPECIFIC ACTIVITIES, ENVIRONMENTS, XENON, KR-85, XB-131, XB-133

06792
DONALD M. SKAUGEN
UNIVERSITY OF CONNECTICUT, STORRS, CONN.
THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS. SUMMARY AND PROGRESS REPORT, JUNE 1, 1962 THROUGH JULY 31, 1963.
STORRS, CONN., UNIVERSITY OF CONNECTICUT, U.S. AEC REPORT TID-18499. 11 P., APR 1963, 1 TAB., 2 REFS.

U.S. AEC CONTRACT NO. AT(30-1)-3039.
THE MAJOR OBJECTIVE OF THIS STUDY WAS TO DETERMINE WHETHER THE COMMON GUPPY, *LEBISTES VERTICULATUS*, EXHIBITS TOXIC EFFECTS WHEN EXPOSED TO AN ENVIRONMENT OF TRITIUM OXIDE. RESULTS OF A PILOT EXPERIMENT SHOWED THAT NONE OF THE TISSUE SAMPLES CONTAINED T(2)O. THIS MAY INDICATE LACK OF EXCHANGE OF T FOR H OR LACK OF ASSIMILATION - R 01. ONE BINDING. A FULL SCALE EXPERIMENT WAS SET UP USING 10 MILLICI/14 L OF WATER AND HAS CONTINUED FOR SLIGHTLY MORE THAN 5 WEEKS. ALL FISH WERE HEALTHY AND APPEARED NORMAL IN EVERY RESPECT. ONE BREED BORN IN T(2)O MORE THAN 4 WEEKS AFTER THE FISH WERE PLACED IN T(2)O INDICATED THAT THE ENTIRE REPRODUCTIVE PROCESS HAD NOT BEEN AFFECTED.
H-3, TRITIUM OXIDE, RADIONUCLIDES, TOXIC EFFECTS, ANIMALS, FISH, TOXICITY, OXIDES, LEBISTES, POECILLIDAE, UPTAKE, RETENTION

06793
D. J. BROWN
HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS, JANUARY - DECEMBER, 1964.
RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-84549. 23 P., 1964, 2 FIGS., 3 TABS., 2 REFS.

THIS REPORT SUMMARIZES, FOR THE PERIOD JANUARY-DECEMBER, 1964, THE RESULTS OF THE SURVEILLANCE OF RADIONUCLIDES IN THE GROUND BENEATH THE HANFORD PROJECT CONDUCTED BY THE CHEMICAL EFFLUENTS TECHNOLOGY OPERATION. THE APPENDIX SHOWS THE WELLS WHICH WERE FOUND TO CONTAIN CONCENTRATIONS OF RADIONUCLIDES ABOVE THE ROUTINE DETECTION LIMIT OF 0.08 PC/CC. UTILIZING CONTOUR MAPS, A TWO-DIMENSIONAL DISTRIBUTION OF TRITIUM CONCENTRATION IN THE WATER BENEATH HANFORD IS SHOWN. CHANGES IN THE TRITIUM CONCENTRATIONS FROM THOSE REPORTED IN A PREVIOUS STUDY WERE NOT SIGNIFICANT. GROUND WATER SAMPLES FROM CONTINUED AQUIFERS AT DEPTH SHOW THAT TRITIUM CONCENTRATIONS ARE DETECTABLE UP TO VALUES OF 200 PC/CC.

H-3, RADIONUCLIDES, HANFORD PROJECT, GROUND WATER, MONITORING, ENVIRONMENTAL RADIATION, ISOCONCENTRATION LINES, CONCENTRATION, RADIOACTIVE WASTES, BETA RADIATION, EFFLUENTS, RADIATION

06794
W. A. HANEY
HANFORD ATOMIC PRODUCTS OPERATION, RICHLAND, WASH.
FISSION PRODUCT TRITIUM IN FUEL REPROCESSING WASTES
RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, HW-54-3303. 14 P., 1963, 2 FIGS., 1 TAB., 22 REFS.
U.S. AEC CONTRACT NO. AT(45-1)-1350.

THE DISCOVERY THAT TRITIUM IS A PRODUCT OF URANIUM FISSION AND EXISTS IN RADIOLOGICALLY-SIGNIFICANT CONCENTRATIONS IN PROCESS SOLUTIONS HAS PROMPTED THIS REVIEW-TYPE ARTICLE TOUCHING ON SEVERAL KEY ASPECTS TO BE CONSIDERED IN THE PRACTICE OF WASTE DISPOSAL. SPECIFICALLY, MENTION IS MADE OF THE PATHS OF TRITIUM THROUGH THE OPERATING CYCLE, ITS DISTRIBUTION AMONG THE VARIOUS LIQUID AND GASEOUS WASTE STREAMS, AND THE RADIOLOGICAL CONSEQUENCES OF ITS RELEASE TO THE ENVIRONMENT. THE RADIOLOGICAL HAZARDS ASSOCIATED WITH THE DISPOSAL OF WASTES CONTAINING TRITIUM AND METHODS OF DECONTAMINATION ARE BRIEFLY DISCUSSED. IN ADDITION, THE ARTICLE REVIEWS SOME OF THE LITERATURE PERTAINING TO THE MOVEMENT OF TRITIUM IN SOIL-WATER SYSTEMS AND ANALYTICAL METHODS FOR DETERMINING TRITIUM OXIDE CONCENTRATIONS IN LIQUID SAMPLES. ENVIRONMENTAL CONDITIONS FAVORABLE FOR FUEL REPROCESSING PLANT LOCATIONS ARE CITED.

URANIUM FISSION, FISSION PRODUCTS, RADIOLOGICAL HAZARDS, H-3, RADIOACTIVE WASTES, TRITIUM OXIDE, RADIOACTIVE WASTE DISPOSAL, RADIONUCLIDES, DECONTAMINATION, CONCENTRATION, TRITIUM GAS

06795
E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S.C.
EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966.
AIKEN, S.C., E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, DPST-66-30-2. 18 P., AUG 1966, 4 FIGS., 8 TABS.

RESULTS OF THE ENVIRONMENTAL MONITORING PROGRAM FOR THE ATMOSPHERE, VEGETATION, FOOD, AND WATER ARE COMPILED. THE QUANTITY OF RADIOACTIVE WASTE RELEASED BY THE SAVANNAH RIVER PLANT TO ITS ENVIRONMENT WAS, FOR THE MOST PART, TOO SMALL TO BE DISTINGUISHED FROM NATURAL BACKGROUND RADIATION OR WAS OBSCURED BY WORLDWIDE FALLOUT FROM NUCLEAR WEAPONS TESTING. BETA ACTIVITY IN AIR, WHICH SHOWED NO RELATIONSHIP WITH PLANT OPERATIONS, WAS ABOUT ONE-HALF OF THAT FOR THE SAME PERIOD OF 1965. TRITIUM OXIDE CONCENTRATIONS IN AIR, AT THE PLANT PERIMETER AND AT THE 25-MILE STATIONS, DID NOT EXCEED 1% OF THE MPC. TRITIUM IN LOCAL MILK, WHEN PRESENT, IS ASSUMED TO BE ASSOCIATED WITH PLANT OPERATIONS. THE AVERAGE TRITIUM LEVEL WAS LESS THAN THE SENSITIVITY OF THE DETECTION PROCESS. BETA CONCENTRATIONS IN ALGAE AND FISH ADJACENT TO AND DOWNSTREAM FROM THE SAVANNAH RIVER PLANT INDICATED SOME MINOR CONTRIBUTION BY THE SAVANNAH RIVER PLANT. ANALYSIS OF LOCAL WATERS SHOWED TRACES OF RADIONUCLIDES, INCLUDING TRITIUM (3.7% MPC). THE TRITIUM CONCENTRATIONS IN FINISHED WATER AVERAGED 5,600 P.C.I./L.

SAVANNAH RIVER PLANT, ENVIRONMENTAL RADIATION, FOODS, VEGETATION, FRESH WATER, ALGAE, FISH, GAMMA RADIATION, NUCLEAR RADIATION, OXIDES, RADIONUCLIDES, TRITIUM OXIDE, H-3, CONCENTRATION, BETA RADIATION, ATMOSPHERE (TERRESTRIAL), MAXIMUM PERMISSIBLE CONCENTRATION, FALLOUT, MONITORING, MILK, DAIRY PRODUCTS, CR-51, CS-137, SR-89, SR-90, NP-239, BA-LA-140, I-131

06796
CONRAD P. STRAUB, ED.
U.S. DEPT. OF HEALTH, EDUCATION AND WELFARE, ROBERT A. TAFT SANITARY ENGINEERING CENTER, CINCINNATI, OHIO.
FATE OF RADIOACTIVE CONTAMINANTS IN WATER. PROGRESS REPORT NO. 2, FOR THE PERIOD MAY 1, 1958 TO JUNE 30, 1959.
CINCINNATI, OHIO, U.S. DEPT. OF HEALTH, EDUCATION, AND WELFARE, ROBERT A. TAFT SANITARY ENGINEERING CENTER, SEC-TR-R60-2 (A/AC 82/G/L 511, TID-12884). 38 P., 1960, 23 FIGS., 7 TABS., 17 REFS.

PROGRESS REPORT NO. 2 ON WATER-BORNE RADIONUCLIDES CONSISTS OF 5 SPECIFIC AREAS OF STUDY, INCLUDING -- INSTRUMENTATION, TRITIUM, ESTUARINE AND MARINE WATERS, AQUATIC BIOTA, AND THE FATE OF RADIOACTIVE MATERIALS IN THE WATER ENVIRONMENT. IN THE SECTION ON TRITIUM, REFERENCE IS MADE TO PROGRESS BEING MADE TO IMPROVE OPTICS AND OBTAIN MORE SENSITIVITY IN THE ANALYSIS. SECTION V OF THE REPORT, WHICH CONTAINS THE RESULTS OF THE TRITIUM ANALYSES, CONCERNS THE CHEMICAL AND BIOLOGICAL EFFECTS THAT THE WATER ENVIRONMENT EXERTS ON ADDED RADIOACTIVE CONTAMINANTS. NO SUBSTANTIAL CONCLUSIONS CAN BE DRAWN FROM THE DATA PRESENTED AS TO THE FATE OF NUCLIDES DISCHARGED TO THE WATER ENVIRONMENT.

H-3, RADIONUCLIDES, CHEMICAL EFFECTS, BIOLOGICAL EFFECTS, ESTUARIES, SEA WATER, ALGAE, RIVERS, WATER, DISTRIBUTION, EQUIPMENT, TRACERS, CS-137, I-131, ZR-NB-95, CE-PR-144, RU-RH-103, RU-RH-106, ZN-65, CO-60, EFFLUENTS, SAVANNAH RIVER

08797

JOE H. OSLOOND
U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDAHO FALLS, IDAHO
RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO.
IDAHO FALLS, IDAHO, U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDO-12040 (SUPPL. 2).
21 P., NOV. 1967, 6 FIGS., 12 TABS.

THE INFORMATION IN THIS REPORT INCLUDES THE QUANTITIES, TYPE, AND DISPOSITION OF RADIOACTIVE WASTE ASSOCIATED WITH REACTOR OPERATIONS OR RESEARCH PROJECTS AT THE NATIONAL REACTOR TESTING STATION DURING THE CALENDAR YEAR 1966. THE RADIOACTIVE WASTES ARE IDENTIFIED ACCORDING TO PHYSICAL FORM, NUCLIDE CONTENT, AND THE FACILITY OR AREA ORIGINATING THE WASTE. A TOTAL VOLUME OF 630 MILLION GALLONS OF LIQUID WASTE CONTAINING 2,488 CURIES OF RADIOACTIVITY WAS DISCHARGED TO THE LITHOSPHERE DURING 1966. AMONG THE ELEVEN RADIONUCLIDES DETECTED, TRITIUM ACCOUNTED FOR 645 CURIES. DURING THE SAME TIME SPAN, 342,280 CURIES OF RADIOACTIVE WASTE WAS RELEASED TO THE ATMOSPHERE. LIKEWISE, 336,000 CUBIC FEET OF SOLID RADIOACTIVE WASTE CONTAINING APPROXIMATELY 3.3 MILLION CURIES WERE STORED OR BURIED IN 1966. RADIOACTIVE WASTE DATA FOR THE YEARS 1955 TO 1965 IS ALSO GIVEN IN SUMMARY FORM.

RADIOACTIVE WASTES, LITHOSPHERE, RADIOACTIVE WASTE DISPOSAL, U-238, H-3, NATIONAL REACTOR TESTING STATION, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), GASES, WATER, I-131, CE-141, RH-RU-103, RH-RU-106, CE-144, SR-90, BA-LA-140, CS-137, CO-60, CO-58, AR-41, XE-137, KR-89, AM-241, PU-238, PU-239, TH-232, U-235

08798

JOE H. OSLOOND AND BRUCE L. SCHNALZ
U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDAHO FALLS, IDAHO
RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO.
IDAHO FALLS, IDAHO, U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDO-12040 (SUPPL. 1).
16 P., AUG. 1966, 6 FIGS., 9 TABS.

THE REPORT CONTAINS INFORMATION AS TO THE QUANTITIES, CLASSIFICATION, AND DISPOSITION OF RADIOACTIVE WASTE ACCUMULATED DURING THE CALENDAR YEAR 1965, AS A RESULT OF OPERATIONS AND RESEARCH AT THE NATIONAL REACTOR TESTING STATION. A TOTAL OF 2100 CURIES CONTAINED IN 2.8 BILLION LITERS OF AQUEOUS LIQUID WAS DISCHARGED TO THE LITHOSPHERE DURING THE YEAR. APPROXIMATELY 543 THOUSAND CURIES WERE RELEASED TO THE ATMOSPHERE. SOLID WASTE STORED OR BURIED DURING 1965 TOTALLED 23 MILLION CURIES.

A PLOT SHOWING THE ACCUMULATED TOTAL ACTIVITY REMAINING IN THE LITHOSPHERE AT THE END OF EACH YEAR (1952-1965) WHICH IS CONTRIBUTED BY TRITIUM IS INCLUDED IN THE REPORT.
LITHOSPHERE, H-3, NATIONAL REACTOR TESTING STATION, U-144, CO-60, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), GASES, WATER, CS-137, CS-134, RU-RH-106, SR-90, RADIOACTIVE WASTE DISPOSAL

08799

JOE H. OSLOOND AND D. L. NEWCOMB
U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDAHO FALLS, IDAHO
RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO.
IDAHO FALLS, IDAHO, U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDO-12040 (SUPPL. 3).
18 P., 1966, 6 FIGS., 11 TABS.

THE INFORMATION IN THIS REPORT INCLUDES DATA ON RADIOACTIVE WASTES ASSOCIATED WITH REACTOR OPERATIONS OR RESEARCH STUDIES AT THE NATIONAL REACTOR TESTING STATION DURING 1967. THE RADIOACTIVE WASTES ARE IDENTIFIED ACCORDING TO QUANTITY, PHYSICAL FORM, NUCLIDE CONTENT, AND THE INSTALLATION OR AREA ORIGINATING THE WASTE. RADIOACTIVE WASTE DATA FOR THE YEARS 1955 THROUGH 1966 IS ALSO GIVEN IN SUMMARY FORM. DURING 1967, 590 MILLION GALLONS OF LIQUID WASTE CONTAINING 1590 CURIES OF GROSS BETA-GAMMA ACTIVITY WAS DISCHARGED TO THE LITHOSPHERE. AN ADDITIONAL 1260 CURIES OF TRITIUM WERE IDENTIFIED AS WASTE DISPOSED TO THE LITHOSPHERE. THE TOTAL RADIOACTIVE WASTE RELEASED TO THE ATMOSPHERE DURING 1967 WAS 206,000 CURIES. A TOTAL OF 342,000 CUBIC FEET OF SOLID WASTE WITH A RADIOACTIVE CONTENT OF APPROXIMATELY 4,071,000 CURIES WERE BURIED OR STORED DURING 1967.
LITHOSPHERE, H-3, NATIONAL REACTOR TESTING STATION, KR-89, KR-86, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), GASES, WATER, CR-51, SR-90, I-131, BA-LA-140, CE-141, CE-144, RU-RH-103, RU-RH-106, CS-137, CO-60, AR-41, XE-137, XE-136, RADIOACTIVE WASTE DISPOSAL

06800

MICHAEL L. GREENBERG, ARJUN D. CHANANA, EUGENE P. CRONKITE, LEWIS M. SCHIFFER, AND PIERRE A. STRYCKMANS
BROOKHAVEN NATIONAL LABORATORY, MEDICAL RESEARCH CENTER, UPTON, N.Y.
TRITATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA.
BLOOD, THE JOURNAL OF HEMATOLOGY, VOL. 28, NO. 6, PP 851-859, 1966, 4 FIGS., 19 REFS.

TWO PATIENTS WITH ACUTE LEUKEMIA HAD CONSIDERABLE DECREASES IN LEUKEMIC CELLS IN THE PERIPHERAL BLOOD AS WELL AS REDUCTION IN SIZE OF SPLEEN AND LEUKEMIC MASSES AFTER 10 INJECTIONS OF TRITATED THYMIDINE ADMINISTERED OVER A 5-DAY PERIOD. EACH INJECTION WAS 0.25 MICRO CURIE/GM BODY WEIGHT.

THE PERTINENT ASPECTS OF CYTOTOXIC EFFECTS OF TRITATED THYMIDINE ARE REVIEWED. THE RADIATION DOSES DELIVERED TO THE NUCLEUS ARE ESTIMATED FROM AUTORADIOGRAPHIC DATA AND EVIDENCE IS PRESENTED FOR THE OBSERVED EFFECTS BEING DUE TO TRITATED THYMIDINE.
TRITATED THYMIDINE, DISEASES, NUCLEUS, CELLS, AUTORADIOGRAPHY, RADIATION DOSE, CYTOTOXIC EFFECTS, H-3, RADIONUCLIDES, LEUKEMIA, HUMANS, RADIATION EXPOSURE

06801

KAREN HALVORSEN GARDER AND FINN DEVIK
K. H. GARDER, INSTITUTT FOR ATOMENERGI, LILLESTROM; F. DEVIK, STATENS RADIOLOGISK-FYSISKE LABORATORIUM, OSLO, NORWAY
STUDIES ON THE INCORPORATION OF TRITATED THYMIDINE IN DEOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS.
INTERNATIONAL JOURNAL OF RADIATION BIOLOGY, VOL. 6, NO. 2, PP 157-172, 1963, 7 FIGS., 5 TABS., 22 REFS.

STUDIES ARE REPORTED WHICH WERE DESIGNED TO CHECK FOR POSSIBLE DISADVANTAGEOUS EFFECTS OF LABELLING DNA WITH TRITATED THYMIDINE OF HIGH SPECIFIC ACTIVITY IN LONG-TERM EXPERIMENTS. THE RESULTS INDICATE THAT CELLULAR DEATH DUE TO RADIATION FROM THE LABEL OCCURS IN MICE LABELLED WITH A DOSE OF 200 MICRO C, AND POSSIBLY ALSO WITH A DOSE OF 20 MICRO C PER MOUSE (ABOUT 1 MICRO C/G).

THE INCORPORATION OF THYMIDINE IN SEVERAL TISSUES DOES NOT INCREASE PROPORTIONATELY TO THE AMOUNT AVAILABLE, INDICATING A POOL EFFECT THAT MIGHT BE DUE TO THYMIDINE EXISTING AS A NORMAL INTERMEDIATE. THE FINDINGS MAY HAVE IMPLICATIONS FOR THE USE OF TRITATED THYMIDINE AS A LABEL FOR DNA IN AUTORADIOGRAPHIC STUDIES. (FROM AUTH. ABSTR.)

H-3, RADIONUCLIDES, TRITATED THYMIDINE, SPECIFIC ACTIVITIES, MICE, DNA, LABELLING, RADIATION EFFECTS, TAGGING, TISSUES, METABOLISM, RODENTS, MAMMALS, BIOASSAY, ORGANS, AUTORADIOGRAPHY, RADIATION EXPOSURE

06802

BONNIE SUE EUSTINE
YALE UNIVERSITY, DEPT. OF BIOLOGY, NEW HAVEN, CONN.

DNA.

JOURNAL OF CELL BIOLOGY, VOL. 35, PP 709-713, 1967, 6 FIGS., 19 REFS.

TRITIATED ACTINOMYCIN D WAS USED TO LABEL THE SMALL AMOUNTS OF DNA LOCATED IN THE NUCLEOLI OF THE AMPHIBIAN OOCYTE NUCLEUS. THE PROCESS PROVED TO BE MORE SENSITIVE THAN FEULGEN STAINING. THE LOCALIZED BINDING OF ACTINOMYCIN TO OOCYTE NUCLEI CONFIRMED THE PRESENCE OF DNA IN THESE NUCLEOLI AND ALSO CONFIRMED ITS ASYMMETRICAL LOCATION.

H-3, RADIONUCLIDES, TRITIATED ACTINOMYCIN D, LABELING, POLYPEPTIDES, ANTIBIOTICS, OOCYTE NUCLEUS, NUCLEUS, NUCLEOLI, DNA, TAGGING, ANIMALS, AMPHIBIANS, TRITIATED COMPOUNDS, AUTORADIOGRAPHY

06803

J. KOCH AND B. L. R. STOKSTAD

UNIVERSITY OF CALIFORNIA, DEPT. OF NUTRITIONAL SCIENCES, BERKELEY, CALIF.
INCORPORATION OF H-3-THYMIDINE INTO NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED MAMMALIAN CELLS.
EUROPEAN JOURNAL OF BIOCHEMISTRY, VOL. 3, PP 1-6, 1967, 5 FIGS., 33 REFS.

HUMAN LIVER CELLS WERE SYNCHRONIZED BY COLD SHOCK. THE SECOND GENERATION WAS SCANNED WITH TWO-HOUR PULSES OF TRITIATED THYMIDINE. MAXIMAL INCORPORATION INTO THE NUCLEAR DNA OCCURRED DURING A SIX-HOUR LONG S-PHASE AND TO A SMALLER EXTENT DURING AND SHORTLY AFTER CYTOKINESIS. THE MITOCHONDRIAL DNA WAS MOST HIGHLY LABELED BETWEEN S-PHASE AND CYTOKINESIS. THE NUCLEAR DNA HAD A BUOYANT DENSITY IN CESIUM CHLORIDE OF 1.699 G/ML, WHEREAS THE MITOCHONDRIAL DNA Banded AT A DENSITY OF 1.688 G/ML. LIVER CELLS, DNA, NUCLEAR DNA, MITOCHONDRIAL DNA, TRITIATED THYMIDINE, H-3, MAN, ORGANS, SYNCHRONY, CELLS, MITOCHONDRIA, UPTAKE, RETENTION, TRITIATED COMPOUNDS

06804

MARGARET W. STANIER

CAMBRIDGE UNIVERSITY, MEDICAL RESEARCH COUNCIL, DEPT. OF EXPERIMENTAL MEDICINE, ENGLAND
TRANSFER OF RADIOACTIVE WATER, UREA, AND GLYCINE BETWEEN MATERIAL AND PORTAL BODY FLUIDS IN RABBITS AND PIGS.
JOURNAL OF PHYSIOLOGY (LONDON), VOL. 178, PP 127-140, 1965, 3 FIGS., 5 TABS., 15 REFS.

WATER LABELLED WITH TRITIUM AND UREA AND GLYCINE LABELLED WITH C-14 WERE INJECTED INTO THE PERITONEUM OF PIGS AND PIGS AND INTO THE ALLANTOIC SAC OF PIGS, TO STUDY THE MOVEMENT OF THESE SUBSTANCES. ALL THREE RADIOACTIVE SUBSTANCES QUICKLY APPEARED ON THE MATERNAL SIDE OF THE PLACENTA AFTER INJECTION INTO THE PIGS. WHEN INJECTED INTO THE PIGS ALLANTOIC SAC, TRITIUM WAS DETECTED IN MATERNAL BLOOD AND IN PIG TISSUE. RADIOACTIVE UREA AND GLYCINE SHOWED LITTLE OR NO MOVEMENT FROM THE ALLANTOIC SAC. AFTER INJECTION OF H-3-WATER AND OF C-14-UREA INTO THE CIRCULATION OF PREGNANT RABBITS, THE SPECIFIC ACTIVITY OF PIG TISSUE INDICATED A RAPID TRANSFER TO THE FETUS, AND EQUILIBRIUM OF SPECIFIC ACTIVITY IN PIG AND MATERNAL BLOOD WAS USUALLY REACHED IN 60 MIN. (FROM AUTH. SUM.)

H-3, C-14, RADIONUCLIDES, WATER, UREA, GLYCINE, PERITONEUM, PIGS, RABBITS, ALLANTOIC SAC, TRITIATED WATER, TAGGING, MAMMALS, RODENTS, DOMESTIC ANIMALS, TRANSFER, FETUSES, TRITIATED WATER, PHYSIOLOGY, DISTRIBUTION, BLOOD, UPTAKE, RETENTION, TISSUES

06805

ARGONNE NATIONAL LABORATORY, ARGONNE, ILL.

ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, JULY - DECEMBER, 1964 AND ANNUAL SUMMARY, 1964.

ARGONNE, ILL., ARGONNE NATIONAL LABORATORY, TID-21756. 30 P., DEC. 1964, 2 FIGS., 12 TABS., 1 REP.

MEASUREMENTS OF THE TOTAL ALPHA AND BETA ACTIVITIES IN THE SURROUNDING AIR AND WATER ATTRIBUTABLE TO ARGONNES OPERATIONS ARE SUMMARIZED. SAMPLES WERE COLLECTED FROM AIR FILTERS LOCATED AT SEVEN SITES ON THE ARGONNE FACILITY AND FROM SAWMILL CREEK, THE RECIPIENT OF ARGONNES WASTE WATER. THE SIMILARITY BETWEEN AIRBORNE BETA ACTIVITY ON AND OFF THE SITE INDICATES THAT ARGONNE DID NOT ADD SIGNIFICANTLY TO THE BETA ACTIVITY OF THE ENVIRONMENT. THE BULK OF THE ACTIVITY ORIGINATING FROM WASTE WATER WAS DUE TO TRITIUM AND SOME OF THE FISSION PRODUCTS. THE MOST ABUNDANT NUCLIDE WAS TRITIUM, WHICH WAS PRESENT AT AN AVERAGE CONCENTRATION EQUIVALENT OF 2.2% OF THE MPC.

H-3, RADIONUCLIDES, RADIATION, WASTE WATER, AIRBORNE BETA ACTIVITY, FISSION PRODUCTS, ALPHA RADIATION, BETA RADIATION, MONITORING, CS-137, ATMOSPHERE (TERRESTRIAL), FALLOUT, SR-90, MILK, DAIRY PRODUCTS, ILLINOIS RIVER, RIVER, SB-125, BA-LA-140, CE-144, RU-103, RU-RH-106, ZR-NB-95

06807

J. O. BLOMKE

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
MANAGEMENT OF FISSION PRODUCT TRITIUM IN FUEL PROCESSING WASTES.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-851. 13 P., 1964, 2 FIGS., 12 REFS.

ALTHOUGH TRITIUM IS A MINOR PRODUCT OF FISSION, ITS PRESENCE IN LOW-LEVEL AQUEOUS WASTE FROM FUEL PROCESSING PRESENTS A PROBLEM OF DISPOSAL TO THE ENVIRONMENT. THE SAFETY LIMITS FOR DISPERSION IN THE ATMOSPHERE AND IN SURFACE AND GROUND WATER MUST BE ESTABLISHED MORE VIGOROUSLY. RECYCLING PROCESS CONDENSATES IS TECHNICALLY FEASIBLE BUT WILL BE MORE COMPLEX AND EXPENSIVE THAN THE PRESENT PRACTICE OF DECONTAMINATION AND DISCHARGE TO THE ENVIRONMENT. AN ADDITIONAL ALTERNATIVE FOR THE DISPOSAL OF TRITIUM-BEARING WASTES MAY BE THEIR INJECTION THROUGH WELLS INTO AN APPROPRIATE GEOLOGICAL FORMATION BELOW THE WATER TABLE.

H-3, RADIONUCLIDES, AQUEOUS WASTE, RECYCLING, DECONTAMINATION, SURFACE WATERS, GROUND WATER, RADIOACTIVE WASTES, RADIOACTIVE WASTE DISPOSAL, NUCLEAR POWER, KR-85, EFFLUENTS, SR-90

06808

U. S. ATOMIC ENERGY COMMISSION, PITTSBURGH NAVAL REACTORS OFFICE, PITTSBURGH, PA.

ENVIRONMENTAL RADIOACTIVITY AT THE SHIPPINGPORT ATOMIC POWER STATION FOR THE SECOND HALF OF 1963 AND FOR CALENDAR YEAR 1963.

U. S. ATOMIC ENERGY COMMISSION, PITTSBURGH NAVAL REACTORS OFFICE, PNROO-DEV-129. 9 P., 1963, 7 TABS.

MEASUREMENTS OF RADIOACTIVITY IN THE VICINITY SHOWED THAT RADIOACTIVE WASTES RELEASED BY THE POWER STATION INTO THE OHIO RIVER DID NOT SIGNIFICANTLY ALTER THE NATURALLY OCCURRING RADIOACTIVITY IN THE ENVIRONMENT. DURING THE LAST SIX MONTHS OF 1963, LESS THAN ONE-TENTH OF THE AMOUNTS OF RADIOACTIVE WASTES RECOMMENDED BY THE NATIONAL COMMITTEE ON RADIATION PROTECTION WERE RELEASED TO THE ENVIRONMENT.

SHIPPINGPORT ATOMIC POWER STATION, RADIOACTIVE WASTES, H-3, K-40, OHIO RIVER, RADIONUCLIDES, FALLOUT, BETA RADIATION, CONCENTRATION, MONITORING, XE-133, EFFLUENTS, ATMOSPHERE (TERRESTRIAL)

06809

WILLIAM E. NORK

ISOTOPIES, A TELEDYNE CO., PALO ALTO LABORATORIES, PALO ALTO, CALIF.

RADIOACTIVITY IN THE HYDROLOGIC ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT REPORT.

U.S. GDS, NEV., U. S. ATOMIC ENERGY COMMISSION, NEVADA OPERATIONS OFFICE, NVO-1229-108. 12 P., AUG. 1969, 2 FIGS., 2 TABS., 4 REFS.

U.S. AEC CONTRACT NO. AT(29-2)-1229.

SOURCE TERM CONCENTRATIONS FOR TRITIUM AND STRONTIUM-90 WERE ASSUMED TO BE 6×10^{-10} TO 2×10^{-10} MICRO CI/ML AND 4×10^{-10} TO 1×10^{-10} MICRO CI/ML, RESPECTIVELY. ASSUMPTION OF HIGH BUT CREDIBLE WATER MOVEMENT RATES AND REASONABLE RETARDATION EFFECTS, INDICATES THAT NEITHER TRITIUM OR STRONTIUM-90 WOULD MOVE MORE THAN A FEW MILES BEFORE DECAY OR DILUTION TO BELOW CG LEVELS. IN THE UNLIKELY EVENT OF MASS MOVEMENT OF RADIOACTIVITY UPWARDS TO THE LAND SURFACE, TRANSPORT OF NUCLIDES RATES MIGHT EXCEED THOSE AT DEPTH, BUT GREATER-THAN-CG LEVELS OF ACTIVITY ARE NOT EXPECTED AT ANY KNOWN WATER USE POINT.

WATER MOVEMENT, PROJECT RULISON, RADIOACTIVITY, CONCENTRATION, SR-90, H-3, RADIONUCLIDES, PLOWSHARE PROGRAM, GROUND WATER, HYDROLOGY, GASES, PROJECT GASBUDDY, KR-85, XE-133, NATURAL GAS, CS-137, EXPLOSIONS, NUCLEAR EXPLOSIONS, TRANSPORT

A. ZUPPINGER, G. FORETTI, K. SCHWARZ, P. ZAORALEK, AND H. AEBI
UNIVERSITY OF BERNE, RADIOLOGICAL INSTITUTE, BERNE, SWITZERLAND
DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION.
RADIOLOGIA CLINICA ET BIOLOGICA, VOL. 32, PP 402-410, 1983, 4 FIGS., 5 TABS., 4 REFS.

THE TOTAL BODY IRRADIATION OF SWISS MICE PRODUCES A DISTURBANCE IN THE CONTENT OF TRITIUM, INJECTED AS TRITIATED WATER, IN FRESH AS WELL IN DRIED ORGANS. SIMILAR DISTURBANCES MAY BE FOUND IN THE IRRADIATED SKIN OF THE SAME ANIMALS. THE TRITIUM CONTENT AFTER IRRADIATION FOLLOWS A BIPHASIC COURSE WHICH CANNOT BE EXPLAINED BY DISTURBANCES IN THE UPTAKE OR BY ELIMINATION OF WATER ONLY. MOREOVER THERE IS AN INDIRECT RADIATION EFFECT ON THE NON-IRRADIATED SKIN OF A LOCAL IRRADIATED ANIMAL. (AUTHS.)

WHOLE BODY EXPOSURE, H-3, RADIONUCLIDES, MICE, TRITIATED WATER, SKIN, IRRADIATION, RADIATION EFFECTS, TAGGING, CONCENTRATION, ORGANS, METABOLISM, IONIZING RADIATION, RADIATION

06811

JOHN V. A. SHARP AND JEROME WESTPHAL
UNIVERSITY OF NEVADA, DESERT RESEARCH INSTITUTE, RENO, NEV.
ENVIRONMENTAL TRITIUM IN CONJUNCTIVE USE STUDIES OF CONTINENTAL RIVER SYSTEMS.
TRANSACTIONS OF THE AMERICAN NUCLEAR SOCIETY, VOL. 12, 501 P., 1969, 1 FIG.

THE USE OF TRITIUM AS A TRACER IN HYDROGEOLOGIC ANALYSIS IS BRIEFLY DISCUSSED. DIFFERENCES IN TRITIUM CONCENTRATION BETWEEN SURFACE WATERS AND GROUND WATERS ADJACENT TO RIVERS PERMITS THE IDENTIFICATION OF RIVER/GROUND WATER TRANSFER AND THE TRACING OF THE DIRECTION AND VELOCITY OF MOVEMENT OF A RECHARGED BODY OF WATER IN THE SUBSURFACE.
H-3, RADIONUCLIDES, TRACERS, GROUND WATER, SURFACE WATERS, NEVADA, HYDROGEOLOGIC ANALYSIS, AQUIPERS, SEASONAL VARIATION, CONCENTRATION

06812

LASZLO Z. BITO AND CLIFFORD V. HARDING
COLUMBIA UNIVERSITY, COLLEGE OF PHYSICIANS AND SURGEONS, DEPTS. OF OPHTHALMOLOGY AND PHYSIOLOGY, NEW YORK, N.Y.

TRITIUM RETENTION BY CORNEAL ENDOTHELIUM AFTER INCORPORATION OF H-3-THYMIDINE.
ARCHIVES OF OPHTHALMOLOGY, VOL. 65, PP 553-556, 1961, 5 FIGS., 1 TAB., 11 REFS.
U.S. AEC CONTRACT NO. AT (30-1)-2456.

RABBIT CORNEAL ENDOTHELIAL CELLS WERE LABELED WITH TRITIUM BY MEANS OF THE INJECTION OF TRITIUM-LABELED THYMIDINE INTO THE ANTERIOR CHAMBER 24 HOURS AFTER MECHANICAL INJURY. AT VARIOUS PERIODS OF TIME AFTER INJECTION, WHOLE-MOUNTS OF THE ENDOTHELIUM WERE PREPARED FOR THE AUTORADIOGRAPHIC LOCALIZATION OF TRITIUM. ENDOTHELIAL CELLS, HEAVILY LABELED WITH TRITIUM, WERE DETECTED AS LONG AS 5 MONTHS AFTER INJECTION. THE DISTRIBUTION AND APPEARANCE OF THE LABELED CELLS ARE DESCRIBED. THE RESULTS SUGGEST THE POSSIBLE USE OF TRITIUM IN THE PATE OF ENDOTHELIUM IN CORNEAL TRANSPLANTS. (AUTHS.)
H-3, RADIONUCLIDES, TRITIATED THYMIDINE, RETENTION, RABBITS, CORNEAL ENDOTHELIUM, ENDOTHELIAL CELLS, ENDOTHELIUM, DNA SYNTHESIS, TRITIATED COMPOUNDS

06813

PHILLIP PINEMAN
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
WASTE DISPOSAL.

REACTOR FUEL PROCESSING, VOL. 8, NO. 1, PP 37-49, 1965, 7 FIGS., 4 TABS., 25 REFS.

A BRIEF REVIEW OF THE DISPOSAL OF TRITIUM-LOADED WASTES IS PRESENTED. THREE POSSIBILITIES FOR WASTE DISPOSAL ARE NOTED-- (1) DILUTION AND RELEASE DIRECTLY TO SURFACE WATERS; (2) DISTILLATION INTO THE PLANT OFF-GAS SYSTEM AND RELEASE UP THE STACK; AND (3) RECYCLE OF EVAPORATOR TRITIUM TO BUILD UP IN THE CONCENTRATED HIGH-LEVEL WASTE STREAM, WHICH IS SUBSEQUENTLY STORED FOR DECAY. THE THREE ALTERNATIVES ARE IN ADDITION TO THOSE CURRENTLY USED AT U.S. FUEL PROCESSING SITES.
H-3, RADIONUCLIDES, DILUTION, DISTILLATION, RECYCLING, RADIOACTIVE WASTES, RADIOACTIVE WASTE DISPOSAL, FUEL PROCESSING, NUCLEAR POWER

06814

D. H. DENHAM
BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, RICHLAND, WASH.
RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JANUARY-JUNE, 1969.
RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, BNWL-1233. 22 P., NOV. 1969, 3 FIGS., 5 TABS., 5 REFS.

MEASUREMENTS OF THE CONCENTRATION OF RU-106 AND H-3 IN THE GROUND WATER BENEATH THE HANFORD PROJECT IS REPORTED. THE HIGHEST AVERAGE H-3 CONCENTRATION OBSERVED IN A CONFINED GROUND WATER ZONE WAS 360 P CI/ML, APPROXIMATELY 12% OF THE TRITIUM CONCENTRATION GUIDE (CG). ONLY ONE WELL WAS FOUND TO CONTAIN A TRITIUM CONCENTRATION EXCESS OF CG. THE DATA PRESENTED IN THE REPORT WERE COLLECTED DURING THE FIRST MONTHS OF 1969.

H-3, RU-106, RADIONUCLIDES, GROUND WATER, CONCENTRATION, HANFORD PROJECT, MONITORING, CR-51, NITRATES, NITROGEN COMPOUNDS, AQUIPERS

06815

GERARD PREJAVILLE
CENTRE D'ETUDES NUCLEAIRES, DEPT. DE PHYSICO-CHEMIE, SACLAY, FRANCE
LE TRITIUM ATMOSPHERIQUE; MESURE ET APPLICATIONS. [ATMOSPHERIC TRITIUM; MEASUREMENT AND APPLICATION.]
SACLAY, FRANCE, CENTRE D'ETUDES NUCLEAIRES, CEA-B10-76. 24 P., FEB. 1967, 1 FIG., 1 TAB., 81 REFS.

THE POSSIBLE ORIGINS OF ATMOSPHERIC TRITIUM ARE REVIEWED AND DISCUSSED. DESCRIBED ENRICHMENT (ELECTROLYSIS AND THERMAL DIFFUSION) AND COUNTING (GAS COUNTERS AND LIQUID SCINTILLATION COUNTERS) PROCESSES WHICH CAN BE USED FOR DETERMINING ATMOSPHERIC TRITIUM CONCENTRATIONS. EXAMPLES ILLUSTRATE THE USE OF ATMOSPHERIC TRITIUM FOR RESOLVING A CERTAIN NUMBER OF HYDROLOGICAL AND GLACIOLOGICAL PROBLEMS.

H-3, RADIONUCLIDES, NUCLEAR RADIATION, ELECTROLYSIS, ENRICHMENT, THERMAL DIFFUSION, GAS COUNTERS, SCINTILLATION COUNTERS, COUNTING, TRACERS, HYDROLOGY, GLACIERS, MONITORING, REVIEW, RADIATION, COSMIC RADIATION, EQUIPMENT

06816

S. JACKSON AND G. W. DOLPHIN
UNITED KINGDOM ATOMIC ENERGY AUTHORITY, HARWELL, ENGLAND
THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES.
HARWELL, ENGLAND, UNITED KINGDOM ATOMIC ENERGY AUTHORITY, AHSB(RP)R-51. 32 P., JAN. 1965, 9 FIGS., 36 REFS.

THE PRIMARY PURPOSE OF ROUTINE URINE ANALYSIS OF SAMPLES FROM A GROUP OF RADIATION WORKERS IS TO DETECT ANY SIGNIFICANT INTAKE WHICH HAS OTHERWISE ESCAPED ATTENTION. IT IS CONVENIENT TO DEDUCE FROM THE AVAILABLE METABOLIC DATA AN INVESTIGATION LEVEL OF URINARY EXCRETION RATE BELOW WHICH NO ACTION IS JUDGED TO BE NECESSARY, BUT ABOVE WHICH INVESTIGATION OF THE CAUSE OF INTAKE AND CONSIDERATION OF FURTHER ACTION IS REQUIRED. A REVIEW IS PRESENTED OF THE HUMAN DATA AVAILABLE ON THE METABOLISM AND EXCRETION OF CESIUM, PHOSPHORUS, POLONIUM, PLUTONIUM, RADIUM, STRONTIUM, SULPHUR, TRITIUM AND URANIUM, AND VALUES OF INVESTIGATION LEVEL ARE SUGGESTED FOR THESE RADIONUCLIDES. (AUTHS.)

H-3, CESIUM, PHOSPHORUS, POLONIUM, PLUTONIUM, RADIUM, STRONTIUM, SULPHUR, URANIUM, RADIONUCLIDES, URINE ANALYSIS, MAN, METABOLISM, EXCRETION, DOSE ESTIMATION, CS-137, P-32, PU-239, PO-210, RA-226, SR-90, S-35, METALS

06817

HAROLD L. RARRICK
SANDIA LABORATORY, ALBUQUERQUE, N. MEX.

PROBLEMS IN HEALTH PHYSICS TRITIUM CONTROL.

ALBUQUERQUE, N. MEX., SANDIA LABORATORY, HEALTH PHYSICS DIVISION, SC-DC-67-2191 (CONP-671010-1).

7 P., SEPT. 1967.

TRITIUM IN THE FORM OF A GAS DOES NOT PRESENT A SERIOUS HEALTH PROBLEM EXCEPT IN LARGE QUANTITIES. TRITIUM IN SOLUBLE FORM (WATER, OIL, SALTS) PRESENTS A SERIOUS HEALTH HAZARD IN SMALL QUANTITIES.

THE PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IS WELL UNDERSTOOD AND DOCUMENTED WITH THE POSSIBLE EXCEPTION OF THE VERY LONG HALF-LIFE COMPONENT. GOOD INSTRUMENTATION IS AVAILABLE EXCEPT FOR AREAS HAVING HIGH GAMMA OR X-RAY BACKGROUNDS. PROTECTIVE EQUIPMENT HAS BEEN DEVELOPED AND THE CHARACTERISTICS OF THE EQUIPMENT ARE DOCUMENTED. TRITIUM IS BECOMING A MORE WIDELY USED ISOTOPE FOR TRACER EXPERIMENTS, NEUTRON GENERATORS, LUMINOUS PAINT, ETC., AND, AS SUCH, IS ENTERING THE DOMAIN OF PUBLIC HEALTH.

THE AEC CONTRACTORS HAVE CONSIDERABLE EXPERIENCE WITH TRITIUM AND THIS INFORMATION IS AVAILABLE TO THE PUBLIC HEALTH AUTHORITIES. (AUTH.)

H-3, RADIONUCLIDES, INSTRUMENTS, PROTECTIVE EQUIPMENT, RADIOLOGICAL HAZARDS, EQUIPMENT, MONITORING, MAN

06818

JOHN R. PRINCE AND CHIH H. WANG

OREGON STATE UNIVERSITY, CORVALLIS, OREG.

A METHOD FOR EVALUATING SURFACE CONTAMINATION OF SOFT BETA EMITTERS.

CORVALLIS, OREGON STATE UNIVERSITY, TID-21400. 13 P., 1964, 4 TABS., 8 REFS.

U.S. AEC CONTRACT NO. AT (45-1)-1387.

THIS REPORT DEMONSTRATES HOW THE TECHNIQUES OF LIQUID SCINTILLATION COUNTING OF PAPER STRIPS CAN BE APPLIED TO THE PROBLEM OF EVALUATING THE DEGREE OF SURFACE CONTAMINATION BY SOFT BETA EMITTERS SUCH AS TRITIUM. ALTHOUGH MOST OF THE INFORMATION CONTAINED IN THE REPORT IS FOR TRITIUM, THE RESULTS CAN BE READILY APPLIED TO OTHER ISOTOPES.

H-3, RADIONUCLIDES, LIQUID SCINTILLATION COUNTING, RADIATION, SURFACE CONTAMINATION, CONTAMINATION, BETA RADIATION

06819

U.S. PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, ROCKVILLE, MD.

SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966.

RADIOLOGICAL HEALTH AND DATA REPORTS, VOL. 8, NO. 7, PP 410-412, 1967, 1 FIG., 4 TABS.

SUMMARIES FOR THE TOTAL RADIOACTIVE WASTES (EXCLUSIVE OF TRITIUM) AND TRITIUM DISCHARGED INTO THE OHIO RIVER ARE REPORTED. THE MAXIMUM QUANTITY OF TRITIUM DISCHARGED IN ONE DAY WAS 566 MILLICURIES.

THE MAXIMUM FOR ALL OTHER RADIONUCLIDES DISCHARGED IN ONE DAY WAS 1.33 MILLICURIES. THE RESULTS OF THESE MEASUREMENTS INDICATE THAT THE RADIOACTIVE WASTE RELEASED BY THE POWER STATION INTO THE OHIO RIVER DID NOT RESULT IN A SIGNIFICANT CHANGE IN THE NATURALLY OCCURRING RADIOACTIVITY IN THE ENVIRONMENT.

H-3, RADIONUCLIDES, OHIO RIVER, ALPHA RADIATION, BETA RADIATION, RADIOACTIVE WASTES, ENVIRONMENTAL MONITORING, RADIOACTIVITY, RADIATION, MONITORING, NUCLEAR POWER, EFFLUENTS, P-40, XE-133, CO-60, SEDIMENTS

06820

U.S. PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, ROCKVILLE, MD.

MOUND LABORATORY, JANUARY-JUNE 1966.

RADIOLOGICAL HEALTH AND DATA REPORTS, VOL. 10, NO. 5, PP 232-234, 1969, 1 FIG., 4 TABS.

RESULTS OF THE MONITORING OF THE RELEASE OF PLUTONIUM-238, POLONIUM-210, AND HYDROGEN-3 TO THE AIR AND WATER SURROUNDING THE MOUND LABORATORY ARE REPORTED. THE AVERAGE CONCENTRATION OF THE THREE RADIONUCLIDES IN THE ATMOSPHERE WERE FOUND TO BE BELOW THE AEC RADIATION PROTECTION STANDARDS.

SIMILAR CONCLUSIONS WERE DRAWN FOR THE RADIONUCLIDE CONCENTRATION IN SIX LOCATIONS AROUND THE GREAT MIAMI RIVER. (SUMMARIZED FROM MLM-1522 (NOT ON FILE).)

H-3, PO-210, PU-238, RADIONUCLIDES, AIR, MONITORING, WATER, GREAT MIAMI RIVER, NUCLEAR POWER, RADIOACTIVE WASTES

06821

WILLIAM E. NORK AND PAUL R. PENSKE

TELEDYNE ISOTOPES, PALO ALTO LABORATORIES, PALO ALTO, CALIF.

RADIOACTIVITY IN WATER - PROJECT RULISON.

PALO ALTO, CALIF., TELEDYNE ISOTOPES, PALO ALTO, LABORATORIES, NVO-1229-131. 22 P., FEB. 1970.

2 FIGS., 4 TABS., 3 REFS.

EXPLOSION-PRODUCED RADIOACTIVITY WAS INITIALLY DISTRIBUTED NON- UNIFORMLY IN THE COLLAPSED CHIMNEY AND FRACTURED ROCK SURROUNDING THE WORKING POINT. REDISTRIBUTION OF THE EXPLOSION-RADIOACTIVITY WILL OCCUR AS A RESULT OF TRANSPORT OF DISSOLVED AND/OR PARTICULATE MATTER IN ANY EXISTING MOBILE GROUND WATER IN MESAVERDE FORMATION ROCKS OR AS A CONSEQUENCE OF RE-ENTRY DRILLING AND TESTING.

QUITE POSSIBLY, GROUND WATER IN THE MESAVERDE FORMATION IS IMMOBILE. IN THIS CASE ALL RADIOACTIVITY WILL RESIDE WHERE IT WAS INITIALLY EMPLACED UNLESS IT IS ARTIFICIALLY REMOVED, AND WILL DECAY EVENTUALLY TO CONCENTRATIONS BELOW CG LEVELS. ANY MOBILE WATER IN THE MESAVERDE FORMATION WHICH BECOMES CONTAMINATED WITH EXPLOSION NUCLIDES, AND IS LOCATED BELOW ABOUT 7000 FEET IS EXPECTED TO MOVE DOWNWARD OR LATERALLY BUT NOT UPWARD. ABOVE 7000 FEET ANY CONTAMINATED MOBILE WATERS ARE EXPECTED TO MOVE LATERALLY.

HYDROLOGIC DATA INDICATES THAT THE RATE OF MOVEMENT OF CONTAMINATED WATER WILL BE ESSENTIALLY NEGLIGIBLE. VERY LIKELY THE RATE OF MOVEMENT WILL BE LOW ENOUGH AND CHEMICAL-EXCHANGE RETARDATION HIGH ENOUGH TO PREVENT TRANSPORT OF NUCLIDES IN GREATER- THAN-CG CONCENTRATIONS FOR ANY SIGNIFICANT DISTANCES. THE AMOUNT OF TRITIUM ACTIVITY FOUND IN THE CAVITY 180 DAYS AFTER DETONATION WAS 1,000 TO 10,000 CURIES. (FROM AUTHS. SUM.)

H-3, RADIONUCLIDES, PROJECT RULISON, MESAVERDE FORMATION, GROUND WATER, AR-37, AR-39, TRANSPORT, RADIOACTIVITY, CONCENTRATION GUIDES, SR-85, PLOWSHARE PROGRAM, COLORADO, EXPLOSIONS, NUCLEAR EXPLOSIONS, HYDROLOGY, GEOLOGY, CS-137, KR-85, SR-90, Y-91, ZR-95, NB-95, RU-103, RH-103, RU-106, RH-106, I-131, BA-137, BA-40, LA-140, CE-141, PR-143, CE-144, PR-144, PM-147, C-14

06822

U.S. PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, ROCKVILLE, MD.

RADIOACTIVITY IN NEW YORK SURFACE WATER, JANUARY-JUNE 1968.

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 10, NO. 4, PP 156-160, 1969, 1 FIG., 3 TABS., 2 REFS.

GROSS BETA RADIOACTIVITY AS WELL AS THE CONCENTRATIONS OF STRONTIUM-89, STRONTIUM-90, AND TRITIUM WERE DETERMINED AT SELECTED WATER SITES IN NEW YORK. CONCENTRATIONS FOR TRITIUM RANGED FROM LESS THAN 1,000 TO 250,000 PICO CURIES PER LITER.

H-3, SR-89, SR-90, RADIONUCLIDES, RADIOACTIVITY, BETA RADIATION, RADIATION, NEW YORK, SURFACE WATERS

06823

JOHN A. WETHINGTON

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

POSSIBLE TECHNIQUES FOR DECONTAMINATION OF NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR EXPLOSION. LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-72087. 10 P., OCT. 1969, 1 FIG., 4 TABS., 23 REFS. (ALSO IN- CONP-700101, PP. 1589-1596).

A SUGGESTED METHOD OF DECONTAMINATION OF GAS WELL PRODUCTS CONTAINING KRYPTON-85 AND TRITIUM IN THE FORM OF HT, CH(3)T, AND C(2)H(5)T UTILIZES EXCHANGE REACTIONS RESULTING IN THE TRANSFER OF TRITIUM FROM GAS INTO WATER. OTHER POSSIBILITIES UTILIZING EXCHANGE REACTION INCLUDE EXCHANGE OF THE GAS WITH ETHYLENE GLYCOL, WITH SILICATE ROCKS INTRODUCED INTO THE GAS STREAM, OR WITH A COUNTERCURRENT STREAM OF AMMONIA OR HYDROGEN SULFIDE. AS A FURTHER APPROACH, USE OF THE CONTAMINATED GAS FOR THE MANUFACTURE OF AMMONIA SYNTHESIS GAS HAS POTENTIAL FOR REMOVAL OF BOTH TRITIUM AND KRYPTON-85.

H-3, RADIONUCLIDES, TRITIATED GAS, TRITIATED METHANE, GAS WELLS, KR-85, TRITIATED ETHANE, GASES, DECONTAMINATION, EXCHANGE REACTIONS, NATURAL GAS, EXPLOSIONS, NUCLEAR EXPLOSIONS, TRITIATED COMPOUNDS

P. C. ADAMS
MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MIAMISBURG, OHIO
ENVIRONMENTAL MONITORING REPORT; JULY - DECEMBER 1964 AND 1964 SUMMARY.
MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1241. 16 P., MAR. 1965,
3 FIGS., 5 TABS.
U.S. AEC CONTRACT NO. AT(33-1)-GEN-53.

THE CONCENTRATION OF TRITIUM IN THE GREAT MIAMI RIVER WAS WITHIN THE MAXIMUM PERMISSIBLE CONCENTRATION RECOMMENDED BY THE NATIONAL COMMITTEE ON RADIATION PROTECTION AND MEASUREMENTS. THE AVERAGE CONCENTRATION OF POLONIUM RELEASED DID NOT EXCEED THE MAXIMUM PERMISSIBLE CONTINUOUS CONCENTRATION. THE CONCENTRATION OF POLONIUM AND PLUTONIUM IN THE ENVIRONMENTAL AIR WAS WITHIN THE MAXIMUM PERMISSIBLE LEVEL. THERE WAS NO DETECTABLE CONCENTRATION OF TRITIUM IN THE ENVIRONMENTAL AIR DURING THIS PERIOD. (SUMMARIZED IN RAD. HEALTH DATA, VOL. 6(11), PP. 663-664, 1965)
H-3, PLUTONIUM, POLONIUM, AIR, WATER, RADIONUCLIDES, ENVIRONMENTAL MONITORING, GREAT MIAMI RIVER, RIVERS, PO-210, CONCENTRATION, PU-238, NUCLEAR POWER, EFFLUENTS, ATMOSPHERE (TERRESTRIAL)

06825

P. C. ADAMS
MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MIAMISBURG, OHIO
ENVIRONMENTAL MONITORING; SEMIANNUAL REPORT, JANUARY - JUNE, 1964.
MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1210. 16 P., SEPT. 1964,
3 FIGS., 3 TABS.
U.S. AEC CONTRACT NO. AT(33-1)-GEN-53.

THE CONCENTRATION OF POLONIUM AND TRITIUM IN THE GREAT MIAMI RIVER WAS WITHIN THE MAXIMUM PERMISSIBLE LEVEL RECOMMENDED BY THE NATIONAL COMMITTEE ON RADIATION PROTECTION AND MEASUREMENTS. THE CONCENTRATION OF POLONIUM AND PLUTONIUM IN THE ENVIRONMENTAL AIR WAS ALSO WITHIN THE MAXIMUM PERMISSIBLE LEVEL. THERE WAS NO DETECTABLE CONCENTRATION OF TRITIUM IN THE ENVIRONMENTAL AIR DURING THIS PERIOD. (SUMMARIZED IN RAD. HEALTH DATA, VOL. 6(5), PP. 288-289, 1965; PREVIOUS SUMMARIES FOR JAN. 1959-DEC. 1963 APPEAR IN VOLS. 1(9), 2(2,6), 3(1,5), 4(3), 5(4,11)).
H-3, PLUTONIUM, POLONIUM, AIR, WATER, RADIONUCLIDES, ENVIRONMENTAL MONITORING, GREAT MIAMI RIVER, EFFLUENTS, RIVERS, PO-210, PU-238, CONCENTRATION, NUCLEAR POWER, ATMOSPHERE (TERRESTRIAL)

06826

P. C. ADAMS
MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MIAMISBURG, OHIO
ENVIRONMENTAL MONITORING REPORT; JANUARY - JUNE, 1965.
MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1275. 15 P., OCT. 1965,
3 FIGS., 3 TABS.
U.S. AEC CONTRACT NO. AT(33-1)-GEN-53.

DETERMINATIONS OF THE RADIONUCLIDES POLONIUM, PLUTONIUM, AND TRITIUM IN THE ENVIRONMENTAL AIR AND WATER SURROUNDING THE MOUND LABORATORY GAVE RESULTS WITHIN THE MAXIMUM PERMISSIBLE CONCENTRATION SET BY THE NATIONAL COMMITTEE ON RADIATION PROTECTION AND MEASUREMENTS. (SUMMARIZED IN RAD. HEALTH DATA AND REPT., VOL. 7(5), PP. 314-315, 1966.)
H-3, AIR, PLUTONIUM, POLONIUM, RADIONUCLIDES, WATER, ENVIRONMENTAL MONITORING, PU-238, PO-210, RIVERS, GREAT MIAMI RIVER, CONCENTRATION, NUCLEAR POWER, EFFLUENTS, ATMOSPHERE (TERRESTRIAL)

06827

P. C. ADAMS AND H. F. ANDERSON
MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MIAMISBURG, OHIO
ENVIRONMENTAL MONITORING REPORT; JULY - DECEMBER, 1965 AND 1965 SUMMARY.
MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1335. 18 P., AUG. 1966,
3 FIGS., 5 TABS.
U.S. AEC CONTRACT NO. AT(33-1)-GEN-53.

DETERMINATIONS OF THE RADIONUCLIDES POLONIUM, PLUTONIUM, AND TRITIUM IN THE ENVIRONMENTAL AIR AND WATER SURROUNDING THE MOUND LABORATORY GAVE RESULTS WITHIN THE MAXIMUM PERMISSIBLE CONCENTRATION SET BY THE NATIONAL COMMITTEE ON RADIATION PROTECTION AND MEASUREMENTS. (SUMMARIZED IN RAD. HEALTH DATA AND REPTS.)
H-3, AIR, PLUTONIUM, POLONIUM, RADIONUCLIDES, WATER, ENVIRONMENTAL MONITORING, PU-238, PO-210, RIVERS, GREAT MIAMI RIVER, CONCENTRATION, NUCLEAR POWER, EFFLUENTS, ATMOSPHERE (TERRESTRIAL)

06828

E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S.C.
EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963.
AIKEN, S.C., E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, DPSPU-64-30-1. 18 P., FEB. 1964, 4 FIGS., 10 TABS.

THE ENVIRONMENTAL MONITORING PROGRAM FOCUSED ON THE CONCENTRATION OF RADIONUCLIDES IN THE ATMOSPHERE, VEGETATION, FOOD, AND WATER FROM THE SURROUNDING LOCALE. IN NO CASE DID THE MONITORING PROGRAM REVEAL CONCENTRATION OF RADIONUCLIDES IN EXCESS OF 4.6% OF MPC RECOMMENDED BY THE INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION. FALLOUT FROM NUCLEAR WEAPONS TESTS OBSCURED THE SMALL AMOUNTS OF RADIOACTIVE WASTES ADDED TO THE LOCAL ATMOSPHERE. TRITIUM ANALYSIS OF MILK SHOWED A CONCENTRATION OF 1.3% MPC. ANALYSIS OF LOCAL STREAMS REVEALED A TRITIUM CONCENTRATION OF 4.6% MPC, THE MOST ABUNDANT RADIONUCLIDE RELEASED TO THE WATER.

H-3, RADIONUCLIDES, SAVANNAH RIVER PLANT, VEGETATION, MILK, FOODS, WATER, BETA RADIATION, RADIATION, GAMMA RADIATION, ALPHA RADIATION, ENVIRONMENTAL MONITORING, EFFLUENTS, NUCLEAR POWER, DAIRY PRODUCTS, ALGAE, PLANTS, FISH, FRESH WATER, CE-144, RU-103, RU-106, ZR-NB-95, MN-54, CONCENTRATION, ALPHA RADIATION, BETA RADIATION, GRASSES, CS-137, ATMOSPHERE (TERRESTRIAL), RIVERS, I-131, BA-LA-140, NP-239, CR-51, SR-89, SR-90

06829

CHARLES P. SMITH, JR.
UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.
PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND CHEMICAL ANALYTICAL RESULTS.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50635 (REV. 1), (CONF-700101-6). 21 P., 1970, 7 TABS., 5 REFS.

RADIOCHEMICAL CONCENTRATIONS, EXPRESSED IN PICO CURIES, DETERMINED IN THE CHIMNEY OR FORMATION GAS ARE REPORTED FOR KRYPTON-85; GASEOUS TRITIUM; TRITIATED WATER; TRITIATED METHANE, ETHANE AND PROPANE; CARBON-14 DIOXIDE; ARGON-37 AND -39. UPPER LIMITS FOR THE CONCENTRATIONS OF SEVERAL NONGASEOUS OR SEMIVOLATILE NUCLIDES ARE PRESENTED. THE TABULATION ALSO INCLUDES THE PERCENTAGES OF NITROGEN, CARBON DIOXIDE, CARBON MONOXIDE, HYDROGEN, METHANE, ETHANE, AND PROPANE IN THE SAMPLE GAS AS DETERMINED BY MASS SPECTROMETRY.

H-3, KR-85, AR-37, AR-39, RADIONUCLIDES, TRITIATED WATER, OXIDES, PROJECT GASBUGGY, RADIOCHEMICAL CONCENTRATION, CR-14 DIOXIDE, TRITIATED METHANE, TRITIATED ETHANE, CARBON MONOXIDE, GASES, TRITIATED PROPANE, PLOWSHARE PROGRAM, EXPLOSIONS, NUCLEAR EXPLOSIONS, NATURAL GAS

06830

C. COSTES, FRANCOISE PERRON, J. VAN ASSCHE, AND MARIE-ESTHER DEROCHE
CENTRE NATIONAL DE RECHERCHES AGRONOMIQUES, VERSAILLES, FRANCE
RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE. [RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER.]
ANNALES DE PHYSIOLOGIE VEGETALE (PARIS), VOL. 6, NO. 4, PP 303-315, 1964, 60 REFS. (ENGL. SUM.)
A POSSIBLE USE OF TRITIATED WATER IN A STUDY ON TRANSFORMATIONS (PHOTOSYNTHESIS AND TRANSPIRATION) OF WATER IN GREEN LEAVES IS EXAMINED. THE MAIN DIFFICULTIES IN THIS SUBJECT RESIDE IN ISOTOPIC EXCHANGE AND MASS DISCRIMINATION. TRITIUM TOXICITY SHOULD NOT APPEAR, FOR IT IS POSSIBLE TO USE VERY LOW CONCENTRATION OF TRITIATED WATER IN PHYSIOLOGICAL EXPERIMENTS. BUT MASS DISCRIMINATION

DECREASES THE REACTION RATE IN WHICH TRITIATED MOLECULES ARE INVOLVED. SO MASS DISCRIMINATION IS A DRAWBACK FOR THE CORRECT UNDERSTANDING OF EXPERIMENTAL RESULTS. THIS DIFFICULTY DISAPPEARS IN COMPARATIVE EXPERIMENTS BETWEEN TWO VARIETIES OR TWO SPECIES OF PLANTS. FINALLY, LIQUID SCINTILLATION TECHNIQUES FOR DETERMINING RADIOACTIVITY IN VARIOUS TRITIATED COMPOUNDS, ARE DISCUSSED. H-3, RADIONUCLIDES, TRITIATED WATER, PHOTOSYNTHESIS, LEAVES, REVIEW, LIQUID SCINTILLATION COUNTING, MASS DISCRIMINATION, TRANSPIRATION, TRANSFORMATIONS, TAGGING, C-14, METABOLISM, PLANTS, FLOWERING PLANTS, DEUTERIUM

06831

E. C. ANDERSON AND WRIGHT LANGHAM

UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.

A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS.

LOS ALAMOS, N. MEX., UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LA-1646. 12 P., APR. 1954, 1 TAB., 17 REFS.

INDICATIONS ARE THAT A LETHAL RADIATION DOSE WOULD RESULT ONLY FROM EXPLOSIVE OXIDATION OF VERY RICH TRITIUM GAS-AIR MIXTURES. OTHER HAZARDS CONSIDERED ARE WHOLE BODY RADIATION FROM DISSOLVED TRITIUM GAS IN BODY FLUIDS, BIOLOGICAL OXIDATION OF THE TRITIUM GAS AND SUBSEQUENT ABSORPTION OF THE TRITIUM WATER PRODUCED, AUTO-OXIDATION OF THE TRITIUM GAS BY THE TRITIUM BETA RAYS AND ABSORPTION OF THE TRITIUM WATER, AND BREMSSTRAHLUNG RADIATION OF TISSUE SURFACES.

TRITIATED WATER, RADIATION DOSE, RADIATION, TISSUES, X-RADIATION, MAN, BREMSSTRAHLUNG, RADIATION, BETA RADIATION, BODY FLUIDS, H-3, WATER, RADIONUCLIDES, HAZARDS, ABSORPTION, GASES, BODY WATER, DOSE ESTIMATION

06832

H. P. ANDERSON AND W. E. SHEEHAN

MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MIAMISBURG, OHIO

ENVIRONMENTAL MONITORING REPORT; JANUARY - JUNE, 1966.

MIAMISBURG, OHIO MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1356. 20 P., DEC. 1966, 3 FIGS., 5 TABS.

U.S. AEC CONTRACT NO. AT(33-1)-GEN-53.

THE CONCENTRATIONS OF TRITIUM, PLUTONIUM, AND POLONIUM IN ENVIRONMENTAL AIR AND WATER SURROUNDING THE MOUND LABORATORY WERE DETERMINED. ALL OF THE RADIONUCLIDES WERE WITHIN THE RADIATION CONCENTRATION GUIDES SPECIFIED BY THE ATOMIC ENERGY COMMISSION. (SUMMARIZED IN RAD. HEALTH DATA REPT., VOL. 6(5), PP. 292-294, 1967.)

H-3, POLONIUM, PLUTONIUM, RADIONUCLIDES, AIR, WATER, CONCENTRATION, ENVIRONMENTAL MONITORING, PU-238, PO-210, EFFLUENTS, NUCLEAR POWER, GREAT MIAMI RIVER, ATMOSPHERE (TERRESTRIAL)

06833

G. W. DOLPHIN, S. JACKSON, AND B. A. LISTER

UNITED KINGDOM ATOMIC ENERGY AUTHORITY, HARWELL, ENGLAND

INTERPRETATION OF BIO-ASSAY DATA.

HARWELL, ENGLAND, UNITED KINGDOM ATOMIC ENERGY AUTHORITY, AHSB(RP)R-41. 35 P., APR. 1964, 8 FIGS., 49 REFS.

IN THIS REVIEW THREE BROAD CATEGORIES HAVE BEEN USED IN CLASSIFYING THE DIFFERENT MODES OF METABOLISM OF VARIOUS RADIONUCLIDES. THE FIRST GROUP INCLUDES THOSE RADIONUCLIDES WHICH ARE RATHER UNIFORMLY DISTRIBUTED THROUGHOUT THE BODY. THE SECOND GROUP INCLUDES THOSE WHICH ARE CONCENTRATED PARTICULARLY IN ONE OR MORE ORGANS OF THE BODY. THE THIRD GROUP, REALLY A SPECIALLY IMPORTANT SUB-GROUP OF THE SECOND, COMPRISES THE BONE SEEKERS. THE PATTERN OF URINARY EXCRETION AND PARTICULARLY ITS RELATIONSHIP TO THE RADIATION DOSE DELIVERED TO THE CRITICAL TISSUES, ARE DISTINCTLY DIFFERENT FOR THESE DIFFERENT GROUPS. THE DATA AVAILABLE ABOUT METABOLISM OF THE RADIONUCLIDES ARE USED TO EVALUATE AN INVESTIGATION LEVEL, NAMELY, THE URINARY EXCRETION RATE CORRESPONDING TO A CHOSEN LEVEL OF BODY CONTENT. A SUMMARY IS PRESENTED OF THE HUMAN DATA AVAILABLE ON METABOLISM AND URINARY EXCRETION OF TRITIUM CESIUM, URANIUM, STRONTIUM, RADIUM AND PLUTONIUM.

H-3, CESIUM, URANIUM, STRONTIUM, RADIUM, PLUTONIUM, RADIONUCLIDES, METABOLISM, URINARY EXCRETION, BLOOD, ORGANS, MAN, BIOASSAY, EXCRETION, BONE, TISSUES, URINE, CS-137, SR-90, RA-226, PU-239, PECES, MODELS, REVIEW, RETENTION, METABOLISM, TRITIATED WATER

06834

JOE H. OSLOOND

U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDAHO FALLS, IDAHO

RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION.

IDAHO FALLS, IDAHO, U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, DIVISION, IDO-12020. 31 P., APR. 1965, 8 FIGS., 20 TABS.

THIS REPORT SUMMARIZES THE DATA PERTAINING TO THE DISPOSAL OF RADIOACTIVE WASTE AT THE NATIONAL REACTOR TESTING STATION. THE VOLUMES OF LIQUID, GASEOUS AND SOLID WASTES ARE REPORTED WITH THE CONCENTRATION AND TOTAL AMOUNTS OF CONTAINED NUCLIDES GIVEN. DETAILED INFORMATION IS LISTED FOR THE YEARS 1962 THROUGH 1964. YEARLY SUMMARY TOTALS ARE LISTED FOR THE YEARS SINCE 1955. (AUTH.) H-3, RADIONUCLIDES, AR-41, XE-137, XE-138, KR-88, RADIOACTIVE WASTES, RADIOACTIVE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, GROUND WATER, ATMOSPHERE (TERRESTRIAL), GASES, EFFLUENTS, MONITORING, SR-90, I-131, RH-RU-106, SR-89, CS-144, CS-137, CD-115, ZR-NB-95, BA-LA-140, KR-89, RADIATION, AIR

06835

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UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.

ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN.

LOS ALAMOS, N. MEX., UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, ALCU-2571. 17 P., DEC. 1952, 4 FIGS., 2 TABS., 4 REFS.

THE RATE OF ABSORPTION OF HTO BY SKIN EXPOSED TO AN ATMOSPHERE SATURATED WITH HTO VAPOR WAS DETERMINED. THE RATE OF ABSORPTION WAS COMPARABLE TO THE RATE OF WATER LOSS, BOTH PROCESSES FOUND TO BE DUE TO THE DIFFUSION OF WATER VAPOR BACK AND FORTH THROUGH THE SKIN BARRIER AND DEPENDENT ON VAPOR PRESSURE. SKIN IMMersed IN LIQUID HTO UNDERWENT HIGHER ABSORPTION, POSSIBLY AS A RESULT OF THE BLOTTER EFFECT. THE RATES OF TRANSFER OF HTO THROUGH THE SKIN WAS COMPARED WITH THE ABSORPTION THROUGH THE RESPIRATORY TRACT AND WERE FOUND TO BE APPROXIMATELY EQUAL WHEN THE TOTAL BODY SURFACE IS EXPOSED TO AN ENVIRONMENT CONTAINING HTO OR T(210).

H-3, RADIONUCLIDES, TRITIATED WATER, SKIN, ABSORPTION, VAPOR PRESSURE, BLOTTER EFFECT, DIFFUSION, RESPIRATORY TRACT, BODY FLUIDS, TRITIATED WATER VAPOR, PRESSURE, MAN, RATE, METABOLISM, URINE

06836

ERNEST A. PINSON

UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.

THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS.

LOS ALAMOS, N. MEX., UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LA-1468. 8 P., DEC. 1952, 1 FIG., 1 TAB., 3 REFS.

A HEALTHY 36-YEAR-OLD MALE WEIGHING 85 KG WAS EXPOSED FOR A PERIOD OF 8 MONTHS TO VARYING LEVELS OF HTO. THE AVERAGE TRITIUM ACTIVITY IN BODY FLUIDS OVER THE ENTIRE PERIOD WAS 23 MICRO C/LITER. A BIOPSY WAS PERFORMED ON SKIN AND FAT TAKEN FROM THE REGION OF THE LOWER ABDOMEN AND THE MATERIAL WAS ANALYZED FOR TRITIUM ACTIVITY. THE SKIN SHOWED AN AVERAGE ACTIVITY EQUIVALENT TO 0.4 MICRO C/KG OF DRY TISSUE AND THE FAT ABOUT 0.3 MICRO C/KG OF DRY TISSUE. IT WAS CONCLUDED THAT THE RADIATION HAZARD DUE TO RETENTION OF TRITIUM IN THE ORGANIC COMPONENTS OF THESE TISSUES OF MAN AFTER CHRONIC EXPOSURE WAS NEGLIGIBLE COMPARED TO THE RADIATION HAZARD FROM HTO ACTIVITY IN THE BODY FLUIDS WHICH WAS NECESSARY TO INDUCE THE ACTIVITY INTO THE ORGANIC COMPONENTS. (FROM AUTH. ABSTR.)

FAT, SKIN, ORGANIC TISSUE, BODY FLUIDS, MAN, WATER, UPTAKE, ABSORPTION, RATE, HALF-LIFE, BIOLOGICAL HALF-LIFE, METABOLISM

06837

ALAN EVERETT HAINES
UNIVERSITY OF ARKANSAS, PAYETTEVILLE, ARK
ISOTOPIC STUDIES OF ATMOSPHERIC METHANE, ETHANE, AND KRYPTON
PAYETTEVILLE, ARK, UNIVERSITY OF ARKANSAS, PH D THESIS, U S AEC REPORT TID-25284 63 P, 1968,
9 FIGS, 7 TABS, 40 REFS

U S AEC CONTRACT NO AT(40-1)-3192

THE LEVEL OF TRITIATED METHANE IN THE ATMOSPHERE HAS REMAINED ESSENTIALLY CONSTANT DURING THE PERIOD 1956-1967. THE CONTINUING RELEASE NEEDED TO MAINTAIN THIS LEVEL CAN EASILY BE ACCOUNTED FOR BY RELEASE FROM NUCLEAR INDUSTRY. THE DETECTION OF TRITIATED ETHANE IS STRONG SUPPORT FOR THE SOURCE OF THE TRITIATED METHANE BEING NUCLEAR INDUSTRY. THE KRYPTON-85 LEVEL IN THE ATMOSPHERE DOES NOT APPEAR TO BE AS HIGH AS PREVIOUSLY THOUGHT. THREE SAMPLES WERE OBTAINED WHICH MAY REPRESENT A WELL MIXED GLOBAL ATMOSPHERE. FROM THESE A KR-85 LEVEL OF 240 DPM/MMOLE FOR THE ATMOSPHERIC KRYPTON IS OBTAINED. ETHANE WAS RECOVERED CARRIER FREE AND FOUND TO HAVE A TRITIUM LEVEL COMPARABLE TO THAT OF METHANE. THE STABLE ISOTOPE RATIOS ARE SIMILAR TO THOSE MEASURED IN ATMOSPHERIC METHANE.

(AUTH)

H-3, RADIONUCLIDES, KR-85, TRITIATED METHANE, TRITIATED ETHANE, NATURAL RADIATION, ATMOSPHERE (TERRESTRIAL), GASES, RADIATION, ENVIRONMENTAL RADIATION

06838

G GIOVANNONZI-SERMANNI AND I CACCIARI
UNIVERSITY OF ROME, PHARMACEUTICAL CHEMISTRY INSTITUTE, ITALY
A METHOD OF STUDYING METABOLIC REACTIONS DURING BETA-IRRADIATION
INTERNATIONAL JOURNAL OF RADIATION BIOLOGY AND RELATED STUDIES IN PHYSICS, CHEMISTRY, AND MEDICINE,
VOL 4, NO 5, PP 533-534, 1962, 1 FIG, 5 REFS

RESULTS SHOW THAT THE LIGHT-CELLS OF C PYRENOIDOSA ARE SENSITIVE TO THE IONIZING RADIATIONS OF TRITIATED WATER AND THAT AFTER 10 MINUTES OF IRRADIATION THE CELLS REACT CLEARLY TO THE STIMULATION. THIS BEHAVIOR SHOWS THE FEASIBILITY OF HOMOGENEOUS IRRADIATION OF MICRO-ORGANISMS BY TRITIATED WATER AND SIMULTANEOUS MEASUREMENT OF THE METABOLIC ALTERATIONS. CELLS, CHLORRELLA, METABOLISM, H-3, BETA RADIATION, TRITIATED WATER, RADIONUCLIDES, ENVIRONMENTAL RADIATION, ALGAE, CHLOROPHYTA, OXYGEN, GASES

06839

G GIOVANNONZI-SERMANNI, R MASIRONI, AND I CACCIARI
UNIVERSITY OF ROME, INSTITUTE OF PHARMACEUTICAL CHEMISTRY, ITALY
PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE
INTERNATIONAL JOURNAL OF RADIATION BIOLOGY AND RELATED STUDIES IN PHYSICS, CHEMISTRY AND MEDICINE,
VOL 5, NO 5, PP 485-491, 1962, 3 FIGS, 2 TABS, 13 REFS

THE EFFECTS OF TRITIUM-EMITTED BETA RADIATIONS HAVE BEEN TESTED ON THE GERMINATION TIME, THE PERIOD OF LAG, THE CELLULAR PERMEABILITY AND THE RESPIRATORY QUOTIENT OF RH GRACILIS TREATED WITH TRITIATED WATER IN THE PRESENCE OF DIFFERENT CONCENTRATIONS OF CYSTAMINE. IN OUR EXPERIMENTAL CONDITIONS, CYSTAMINE AT THE METABOLICALLY-INACTIVE CONCENTRATION 2.5×10^{-4} M SHOWED NO RADIOPROTECTIVE ACTIVITY ON THE CELLS, WHILE AT THE METABOLICALLY-ACTIVE CONCENTRATION 2.5×10^{-3} M CYSTAMINE WAS CAPABLE OF COUNTERACTING THE EFFECTS OF BETA-RAYS. THE CELLULAR PERMEABILITY REMAINED UNCHANGED IN EVERY TREATMENT. THE RADIOPROTECTIVE ACTION THEREFORE SEEMS TO DEPEND ON THE METABOLIC ALTERATIONS BROUGHT ABOUT BY THE RADIOPROTECTANT ITSELF. (AUTHS)

H-3, RADIONUCLIDES, TRITIATED WATER, BETA RADIATION, METABOLISM, CYSTAMINE, GERMINATION TIME, CELLULAR PERMEABILITY, RESPIRATORY QUOTIENT, PERIOD OF LAG, PHYSIOLOGY, CELLS, GROWTH, RHODOTORULA, RATE, RADIOPROTECTANT, MICROORGANISMS, WATER, CELLS, FUNGI, FUNGI IMPERFECTI

06840

E PLAMM, R B LINGENFELTER, GORDON J F MACDONALD, AND W F LIBBY
UNIVERSITY OF CALIFORNIA, INSTITUTE OF GEOPHYSICS AND PLANETARY PHYSICS, LOS ANGELES, CALIF
TRITIUM AND HELIUM-3 IN SOLAR FLARES AND LOSS OF HELIUM FROM THE EARTH'S ATMOSPHERE
SCIENCE, VOL 138, PP 48-50, 1962, 1 TAB, 34 REFS

THE SOLAR FLARE RADIATION INTERCEPTED BY THE DISCOVERER XVII SATELLITE WAS FOUND TO CONSIST OF 0.4% TRITIUM, 10% ISOTOPIC HELIUM (HE-3), AND 90% HYDROGEN AND HELIUM. THESE FINDINGS HAVE BROAD IMPLICATIONS IN GEOPHYSICS AND SOLAR PHYSICS. (AUTH)

H-3, HE-3, RADIONUCLIDES, SOLAR FLARES, NATURAL RADIATION, RADIATION, STABLE NUCLIDES, ATMOSPHERE (TERRESTRIAL), SOLAR RADIATION

06841

GERHARD W ISRAEL
UNIVERSITY OF HEIDELBERG, PHYSICAL INSTITUTE, GERMANY
MESSUNG DES TRITIUM-JAHRESGANGES IM REGEN 1960-61 NACH ISOTOPENANREICHERUNG IM TRENNROHR [MEASUREMENT OF THE TRITIUM CONCENTRATION PATTERN IN RAIN IN 1960-61 BY ISOTOPIC ENRICHMENT IN THE SEPARATION PERIOD]

ZEITSCHRIFT FÜR NATURFORSCHUNG, VOL 17A, PP 925-929, 1962, 4 FIGS, 1 TAB, 19 REFS

THE TRITIUM CONTENT IN RAIN WATER COLLECTED NEAR COLOGNE (GERMANY) VARIED IN 1960-61 BETWEEN 20-200 T U WITH THE MAXIMUM IN MAY AND THE MINIMUM IN NOVEMBER. A STRIKING PARALLELISM TO VARIATION OF SR-90 IN RAIN IS FOUND. ABOUT 10 ML OF RAIN WATER ARE REDUCED BY MAGNESIUM. THE TRITIUM IS QUANTITATIVELY ENRICHED BY A CLUSIUS-DICKEL-COLUMN IN 24 HOURS. A TENFOLD ELECTROLYTICAL ENRICHMENT IS DONE BEFOREHAND WHEN MEASURING TRITIUM CONCENTRATIONS LESS THAN 20 T U. THE PERFORMANCE OF THE CD-COLUMN IS FOUND TO BE IN GOOD AGREEMENT WITH THEORY. THE ACTIVITY IS MEASURED BY AN ARGON-METHANE FILLED PROPORTIONAL COUNTER, WHOSE BACKGROUND IS REDUCED BY ENERGY DISCRIMINATION. (AUTH)

H-3, SR-90, RADIONUCLIDES, RAINWATER, CONCENTRATION, SR-90, FALLOUT, MONITORING, GERMANY, RADIOACTIVITY

06842

F BROWN, P GOLDSMITH, H F GREEN, A HOLT, AND A G PARHAM
F BROWN, H F GREEN, AND A HOLT, ATOMIC WEAPONS RESEARCH ESTABLISHMENT, ALDERMASTON, P GOLDSMITH AND A G PARHAM, ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL, ENGLAND
MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND

TELLUS, VOL 13, PP 407-416, 1961, 2 FIGS, 3 TABS, 27 REFS

THE TRITIUM AND CARBON-14 CONCENTRATIONS ARE GREATER THAN THOSE EXPECTED FROM NATURAL PRODUCTION DUE TO THE COSMIC RADIATION. THE BULK OF THESE TWO ISOTOPES, AT PRESENT IN THE STRATOSPHERE, HAS BEEN INJECTED THERE DURING THE COURSE OF THERMONUCLEAR EXPLOSIONS. MASS SPECTROMETRIC ANALYSES SHOW THAT THE DEUTERIUM/HYDROGEN RATIO OF THE WATER AND THE CARBON-13/CARBON-12 AND OXYGEN-18/RATIOS OF THE CARBON DIOXIDE COLLECTED AT THESE HEIGHTS WERE THE SAME, WITHIN THE ACCURACY OF MEASUREMENT, AS THOSE FOR SAMPLES COLLECTED NEAR THE GROUND. THE CONCENTRATION OF TRITIUM AT THE HEIGHTS OF THE MEASUREMENTS HAS NOT FALLEN SINCE THE TERMINATION OF THERMONUCLEAR WEAPON TESTING IN AUTUMN 1956.

THERE IS POOR CORRELATION BETWEEN THE TRITIUM CONCENTRATION AT 90,000 FEET AND THAT OF PARTICULATE CESIUM-137 AT 47,000 FEET MEASURED OVER THE SAMPLING PERIOD. THE HUMIDITY ABOVE 80,000 FEET IS FOUND TO BE GREATER THAN THAT IN THE LOWER STRATOSPHERE. IT IS CONCLUDED FROM THESE HUMIDITY AND TRITIUM RESULTS THAT THE LARGE SCALE MERIDIONAL CIRCULATION IN THE STRATOSPHERE DOES NOT REACH HEIGHTS OF 90,000 FEET OVER TEMPERATE LATITUDES. (FROM AUTH ABSTR)

H-3, C-14, C-13, O-18, RADIONUCLIDES, WATER VAPOR, CARBON DIOXIDE, HUMIDITY, STRATOSPHERE, COSMIC RADIATION, RADIATION, ISOTOPES, GASES, CE-137, WATER, ENVIRONMENTAL RADIATION, NATURAL RADIATION, ENGLAND

06843

UNIVERSITY OF MINNESOTA, SCHOOL OF PUBLIC HEALTH, MINNEAPOLIS, MINN.
 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR TRITIATED WATER AND TRITIATED THYMIDINE.
 AMERICAN INDUSTRIAL HYGIENE ASSOCIATION JOURNAL, VOL. 30, PP 514-518, 1969, 2 FIGS., 2 TABS., 13 REFS.

THE ELECTRONS OF IMPORTANCE BIOLOGICALLY IN THE ABSORPTION OF ENERGY FROM BETA PARTICLES EMITTED, BY TRITIUM HAVE ENERGIES BELOW 1 KEV. THESE ELECTRONS HAVE EXTREMELY SHORT RANGES WHICH PROMPT THE EXAMINATION OF ABSORBED ENERGY ON SOME BASIS OTHER THAN AVERAGE DOSE, SUCH AS ERGS/GM. TENTATIVE MPCs FOR TRITIATED WATER AND TRITIATED THYMIDINE ARE DERIVED IN THIS PAPER WITHOUT REFERENCE TO ABSORBED DOSE. THE MPCs THUS OBTAINED ARE 10 TO 100 TIMES PRESENT RECOMMENDED VALUES. (AUTH.)
 MAXIMUM PERMISSIBLE CONCENTRATION, H-3, RADIONUCLIDES, CONCENTRATION, TRITIATED WATER, TRITIATED THYMIDINE, RADIATION, BETA RADIATION, ABSORPTION, MAN, DNA, DOSE ESTIMATION, TRITIATED COMPOUNDS, NUCLEOSIDES

06844

A. E. BAINBRIDGE, H. E. SUESS, AND IRVING FRIEDMAN
 A. E. BAINBRIDGE AND H. E. SUESS, UNIVERSITY OF CALIFORNIA AT SAN DIEGO, SCRIPPS INSTITUTION OF OCEANOGRAPHY, LA JOLLA, CALIF.; I. FRIEDMAN, U.S. GEOLOGICAL SURVEY, WASHINGTON, D. C.
 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN AND METHANE.
 NATURE, VOL. 193, NO. 4803, PP 648-649, 1961, 6 REFS.

THE AUTHORS CONCLUDE THAT ARTIFICIAL TRITIUM HAD LITTLE EFFECT ON THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN PRIOR TO 1954, THE YEAR IN WHICH THE CASTLE TESTS WERE CONDUCTED. THE CASTLE TEST SERIES IS COMMONLY ASSUMED TO HAVE LED TO THE FIRST PRONOUNCED RISE IN THE TRITIUM CONCENTRATION OF TERRESTRIAL SURFACE WATER. THE TRITIUM CONTENT OF ATMOSPHERIC METHANE WAS ALSO INVESTIGATED BUT NO SATISFACTORY EXPLANATION OF THE RESEARCH FINDINGS WERE PROPOSED.
 H-3, RADIONUCLIDES, ATMOSPHERIC HYDROGEN, ATMOSPHERIC METHANE, SURFACE WATERS, CASTLE TESTS, ATMOSPHERE (TERRESTRIAL), EXPLOSIONS, NUCLEAR EXPLOSIONS, ENVIRONMENTAL RADIATION, RADIATION, NATURAL RADIATION

06845

A. E. BAINBRIDGE
 UNIVERSITY OF CALIFORNIA, SAN DIEGO, CALIF.
 TRITIUM IN SURFACE WATERS OF THE NORTH PACIFIC.
 IN- NUCLEAR GEOPHYSICS. PROCEEDINGS OF A CONFERENCE HELD AT WOODS HOLE, MASS., 7-9 JUNE 1962.
 NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL, PUBLICATION 1075, PP 129-137, 1963, 5 FIGS., 1 TAB., 3 REFS.

TWO CONCLUSIONS ARE DRAWN FROM THE PRESENT STUDY. FIRST, THE RESIDENCE TIME IN THE MIXED LAYER IS LESS THAN 3.5 YEARS, THIS BEING A MAXIMUM FIGURE SINCE NO CONSIDERATION WAS GIVEN TO TRITIUM ENTERING DIRECTLY INTO THE MIXED LAYER FROM BOMBS EXPLODED ON THE SURFACE OF THE OCEAN. SECOND, THE EFFECTIVE DEPTH IN THE MIXED LAYER MAY BE LESS THAN DEPTH OF THE THERMOCLINE CALCULATED BY CLASSICAL OCEANOGRAPHIC METHODS. THESE RESULTS REPRESENT ONLY A PRELIMINARY SURVEY OF THE DATA.
 H-3, RADIONUCLIDES, NORTH PACIFIC OCEAN, OCEANS, WATER, RADIATION, SPECIFIC ACTIVITIES, RESIDENCE TIME, MIXED LAYER, SURFACE WATER, PACIFIC OCEAN, NATURAL RADIATION

06846

S. D. SOMAN AND P. ABRAHAM
 BHABHA ATOMIC RESEARCH CENTER, HEALTH PHYSICS DIVISION, BOMBAY, INDIA
 ESTIMATION OF DILUTION RATE FACTORS FOR TRITIATED WATER VAPOUR FROM A REACTOR STACK.
 HEALTH PHYSICS, VOL. 13, PP 1117-1121, 1967, 1 FIG., 1 TAB., 1 PL., 11 REFS.

TRITIUM IS PRESENT IN THE EFFLUENT AIR FROM NUCLEAR REACTORS, USING HEAVY WATER AS MODERATOR OR AS COOLANT OF BOTH, AS TRITIATED WATER VAPOUR. AS TRITIUM IS LONG-LIVED, THE ESTIMATION OF TRITIUM IN AIR AT DIFFERENT LOCATIONS CAN PROVIDE A GOOD INDICATION OF THE DILUTION OBTAINED AT THESE POINTS. IF THE CONCENTRATION OF TRITIUM IN THE EXHAUST GASES IS ALSO MEASURED SIMULTANEOUSLY. COLD FINGER SAMPLES FROM THE CIRUS EXHAUST SYSTEM HAVE BEEN ANALYSED FOR TRITIUM CONTENT TO ESTIMATE THE RATE OF RELEASE OF TRITIUM. THE METHODS ADOPTED FOR THE COLLECTION OF SAMPLES AT DIFFERENT LOCATIONS IN THE CENTRE, ESTIMATION OF TRITIUM CONCENTRATIONS AND THE RESULTS OBTAINED ARE PRESENTED. (AUTHS.)

H-3, RADIONUCLIDES, EFFLUENT AIR, WATER VAPOR, TRITIATED WATER, NUCLEAR REACTORS, DILUTION, ATMOSPHERE (TERRESTRIAL), WATER, METEOROLOGY, CONCENTRATION, INDIA, RATE, ENVIRONMENTAL RADIATION, RADIATION

06847

S. P. SHEN, S. A. KORFF, AND H. A. C. NEUBURG
 NEW YORK UNIVERSITY, DEPT. OF PHYSICS, UNIVERSITY HEIGHTS, N.Y.
 TRITIUM CONTENT OF ANTARCTIC SNOW.
 NATURE, VOL. 199, NO. 4888, PP 60-61, 1963, 1 TAB., 9 REFS.

THREE SAMPLES OF ANTARCTIC SNOW WERE EXAMINED FOR TRITIUM CONTENT BY ELECTROLYTIC ENRICHMENT FOLLOWED BY LOW-LEVEL COUNTING. RESULTS ARE SUMMARIZED IN A TABLE CONSISTING OF SAMPLE DESCRIPTION, TIME OF PRECIPITATION, AND TRITIUM CONTENT. CONCENTRATIONS RANGED FROM APPROXIMATELY 17 TO 82 T.U.

H-3, RADIONUCLIDES, ANTARCTIC, SNOW, PRECIPITATION (METEOROLOGICAL), CONCENTRATION, NATURAL RADIATION, RADIATION, ENVIRONMENTAL RADIATION

06848

BRUCE L. SCHMALZ AND WILFRED L. POLZER
 U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDAHO FALLS, IDAHO
 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL.
 SOIL SCIENCE, VOL. 108, NO. 1, PP 43-47, 1969, 1 FIG., 5 TABS., 15 REFS.

ON THE BASIS OF TRITIUM CONCENTRATION MEASUREMENTS IN SOIL WATER, IT IS CONCLUDED THAT APPROXIMATELY 3.5% OF THE TRITIUM WHICH OCCURRED AT THE SOUTHEASTERN IDAHO LOCATION DURING A 15-YEAR PERIOD REMAINED IN THE TOP 200 CENTIMETERS OF THE SOIL PROFILE WHILE THE REST WAS LOST BY EVAPORATION OR TRANSPIRATION. THE OBSERVED DISTRIBUTION COMPARED WITH THAT CALCULATED BY A MATHEMATICAL MODEL BASED ON DIFFUSIVITY AND CONVECTIVE PROCESSES. DIFFUSIVITY VALUES ACCEPTABLE BY THE MODEL VARIED WITHIN A RANGE OF 0.9×10 MINUS 6 TO 9×10 MINUS 6 CM²/SEC. ACCEPTABLE VALUES FOR VELOCITY VARIED WITHIN A SMALLER RANGE OF 8 TO 10.4 CM PER THREE-MONTH PERIOD. (AUTHS.)

DIFFUSIVITY VALUES, UNSATURATED SOIL, TRITIATED WATER, RADIONUCLIDES, H-3, SOILS, RAINFALL, PRECIPITATION (METEOROLOGICAL), DISTRIBUTION, NATIONAL REACTOR TESTING STATION, MODELS, LOAM, CLAYS, CONCENTRATION, SOIL MOISTURE, DEPTH, LEACHING, RAINOUT, WASHOUT, MATHEMATICAL MODELS

06849

L. L. NEWKIRK
 LOCKHEED MISSILES AND SPACE CO., PALO ALTO, CALIF.
 CALCULATION OF LOW-ENERGY NEUTRON FLUX IN THE ATMOSPHERE BY THE S SUB N METHOD.
 JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68, NO. 7, PP 1825-1833, 1963, 5 FIGS., 2 TABS., 27 REFS.
 U.S. OFFICE OF NAVAL RESEARCH CONTRACT NONR 3368(00).
 CALCULATED VALUES OF LOW-ENERGY ATMOSPHERIC NEUTRON FLUX WERE USED WITH APPROPRIATE NEUTRON CROSS SECTIONS TO DERIVE AVERAGE WORLD RATES FOR PRODUCTION OF C-14 AND H-3 BY NEUTRON ABSORPTION PROCESSES IN THE ATMOSPHERE.
 H-3, C-14, RADIONUCLIDES, NEUTRON FLUX, ATMOSPHERE (TERRESTRIAL), COSMIC RAY NEUTRONS, RADIATION, SN METHOD, COSMIC RADIATION, DIFFUSION, NATURAL RADIATION, EQUATIONS, TRANSPORT, ABSORPTION

06850

F. S. NAKAYAMA AND R. D. JACKSON
 U.S. WATER CONSERVATION LABORATORY, TEMPE, ARIZ.
 DIFFUSION OF TRITIATED WATER (H-3 H-1 O-16) IN AGAR GEL AND WATER.
 JOURNAL OF PHYSICAL CHEMISTRY, VOL. 67, PP 932-933, 1963, 1 FIG.
 THE DIFFUSION COEFFICIENTS OF H-3 H-1 O-16 MEASURED AT FOUR AGAR GEL CONCENTRATIONS ARE DETERMINED. A LINEAR REGRESSION EQUATION WAS CALCULATED FOR THIS RELATION FROM WHICH A VALUE $D = 2.41$ PLUS

OR MINUS 0.055 X 10 MINUS 5 CM(2) SEC MINUS 1 WAS DETERMINED FOR THE DIFFUSION COEFFICIENT OF TRITIATED WATER IN ORDINARY WATER.
H-3, RADIONUCLIDES, TRITIATED WATER, WATER, DIFFUSION COEFFICIENT, AGAR GEL

06851

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UNIVERSITY OF CALIFORNIA, DEPT. OF CHEMISTRY, AND INSTITUTE OF GEOPHYSICS, LOS ANGELES, CALIF.
TRITIUM GEOPHYSICS.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 66, NO. 11, PP 3767-3782, 1961, 4 FIGS., 5 TABS., 20 REFS.
RAINFALL FROM THE NORTHERN AND SOUTHERN HEMISPHERES HAS BEEN ANALYZED FOR TRITIUM. DURING THE SPRING, SUMMER, AND EARLY FALL OF 1959, IN THE NORTHERN HEMISPHERE THERE WAS A PEAK IN TRITIUM FALLOUT WHICH WAS PROPORTIONAL TO THE PEAK IN SR-90 FALLOUT, WHEREAS IN THE SOUTHERN HEMISPHERE THERE WAS NO APPRECIABLE INCREASE IN EITHER THE TRITIUM OR THE SR-90 FALLOUT. THE PROPORTIONALITY OF THE TWO FALLOUT CURVES SUGGESTS THAT SINGLE MOLECULES OF WATER AND FINE PARTICULATE MATTER HAVE THE SAME RESIDENCE TIME IN THE STRATOSPHERE AND THAT THE MIXING OF THE STRATOSPHERIC AIR WITH TROPOSPHERIC AIR FOLLOWED BY RAINFALL SCAVENGING MUST BE THE MECHANISM FOR THE REMOVAL OF BOTH FROM THE ATMOSPHERE. THE GENERAL RISE IN THE TRITIUM LEVEL DUE TO HYDROGEN-BOMB EXPLOSIONS HAS BEEN FOUND TO BE PROPORTIONAL TO THE TOTAL ENERGY RELEASE, EVEN THOUGH THE BOMBS WERE FIRED UNDER A VARIETY OF INTERPOLATED AND EXTRAPOLATED SO AS TO SUPPLY VALUES FOR THE TRITIUM OF CONDITIONS. THEREFORE, RAIN AND GROUND WATER DATA CAN BE LEVELS WHERE SAMPLES WERE NOT COLLECTED AND MEASURED. (FROM AUTH. ABSTR.)
H-3, SR-90, RADIONUCLIDES, RAINFALL, FALLOUT, RADIATION, STRATOSPHERE, ATMOSPHERE (TERRESTRIAL), TROPOSPHERE, RESIDENCE TIME, GEOPHYSICS, PARTICLES, MONITORING, HYDROLOGY, GROUND WATER, RIVERS, LAKES, SURFACE WATER, OCEANS, GLOBAL, NATURAL RADIATION, AQUIFERS, ENVIRONMENTAL RADIATION

06852

W. ENGELS AND W. DRESCHER
EINBAU VON H-3-D-GLUCOSE WAEREND DER OOGENSESE BEI APIS MELLIFICA L. (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENSESE IN APIS MELLIFICA L.)
EXPERIENTIA (BASEL), VOL. 20, NO. 8, PP 445-447, 1964, 2 FIGS., 19 REFS.
THE INCORPORATION OF TRITIATED GLUCOSE INTO THE OVARY OF HONEY BEE QUEENS WAS STUDIED BY AUTORADIOGRAPHY. DURING THE LAST STAGES OF OOGENSESE, THE SYNTHESIS OF RESPECTABLE AMOUNTS OF GLYCOGEN WAS FOUND IN THE RETICULOPASM OF THE DEVELOPING EGGS. THE FOLLICLE EPITHELIUM AND ALSO THE NURSE CELLS ONLY APPEARED MORE LIGHTLY AND TRANSITORY LABELLED AT MEDIUM STAGES. A HYPOTHESIS WAS ESTABLISHED CONCERNING AN ANTAGONISM OF PROTEIN AND POLYSACCHARIDE FORMATION IN THE CYTOPLASM CORRESPONDING TO THE RATHER LATE OCCURRENCE OF GLYCOGEN IN INSECT OOGENSESE. (AUTHS.)
H-3, RADIONUCLIDES, TRITIATED GLUCOSE, GLYCOGEN, HONEY BEE, INSECTS, INSECT OOGENSESE, AUTORADIOGRAPHY, REPRODUCTION, ORGANIC COMPOUNDS, CARBOHYDRATES, METABOLISM, TRITIATED COMPOUNDS, APIS, HYMENOPTERA, ANIMALS

06853

S. O. REICHERT
E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S.C.
RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 67, NO. 11, PP 4363-4374, 1962, 10 FIGS., 2 TABS., 5 REFS.
U.S. AEC CONTRACT NO. AT(07-2)-1.
DISPOSAL OF RADIOACTIVITY TO THE GROUND HAS BEEN LIMITED TO THE BURIAL OF SOLID WASTE AND THE DISCHARGE OF VERY-LOW-LEVEL WASTE TO OPEN SEEPAGE BASINS. ALTHOUGH SOLID WASTES HAVE BEEN SUBJECTED TO LEACHING BY AN ANNUAL RAINFALL OF 45 TO 50 INCHES SINCE 1953, NO RADIONUCLIDES HAVE BEEN DETECTED IN GROUND WATER FROM THIS SOURCE. SEEPAGE BASIN RETENTION OF RADIONUCLIDES HAS BEEN LESS SATISFACTORY. ALL OF THE RADIONUCLIDES RELEASED TO THE SEEPAGE BASINS, EXCEPT PLUTONIUM, HAVE BEEN DETECTED IN THE SURROUNDING GROUND WATER. FISSION-PRODUCT TRITIUM, PRESENT IN WATER, IS NOT ADSORBED AND THUS SERVES AS A USEFUL GROUNDWATER TRACER. STRONTIUM 90 IS POORLY ADSORBED ON LOCAL SOIL AND IS DETECTABLE IN SAND LAYERS, AT CONCENTRATIONS LESS THAN THE RADIOACTIVITY CONCENTRATION GUIDE, AS FAR AS 500 FEET FROM THE BASINS. THE RADIONUCLIDES OF CERIUM, CESIUM, RUTHENIUM, ZIRCONIUM, AND NIOBIUM DO NOT MIGRATE AS FAR AS THOSE OF STRONTIUM. MOST OF THE MIGRATION OF RADIONUCLIDES HAS BEEN THROUGH SANDY STRATA OR SAND-FILLED CLASTIC DIKES. WHEREVER THE SOILS DO NOT CONTAIN THESE IMPERFECTIONS, MIGRATION HAS BEEN SLOW. (FROM AUTH. ABSTR.)
H-3, SR-90, SR-89, CE-141, CE-144, CS-137, RU-103, RU-106, ZR-NB-95, RADIONUCLIDES, SAVANNAH RIVER PLANT, GROUND WATER, WATER, RADIATION, RADIOACTIVE WASTES, MIGRATION, SEEPAGE BASIN, WASTE DISPOSAL, RADIOACTIVE WASTE DISPOSAL, ENVIRONMENTAL RADIATION

06854

L. L. THATCHER AND C. M. HOFFMAN
U. S. GEOLOGICAL SURVEY, WASHINGTON, D.C.
TRITIUM FALLOUT OVER NORTH AMERICA FROM THE SOVIET TESTS IN 1961.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68, NO. 20, PP 5899-5901, 1963, 3 TABS., 5 REFS.
THE DATA INDICATE A MAJOR INCREASE OF TRITIUM FALLOUT BEGINNING IN LATE OCTOBER AND EARLY NOVEMBER 1961, APPROXIMATELY 50 DAYS AFTER THE FIRST SOVIET SERIES OF SEVERAL-MEGATON BURSTS. THE INCREASE OF TRITIUM FALLOUT CONTINUED THROUGH THE WINTER AND REACHED A PEAK IN THE SPRING OF 1962. TRITIUM MEASUREMENTS CONDUCTED AT FIVE STATIONS ARE SUMMARIZED IN TABLES GIVING BOTH AVERAGE TRITIUM CONCENTRATIONS IN T.U. FOR EACH MONTH AND AS TOTAL MONTHLY TRITIUM DEPOSITION.
H-3, RADIONUCLIDES, SURFACE WATERS, FALLOUT, RADIATION, MONITORING, RAINOUT, ENVIRONMENTAL RADIATION, UNITED STATES, WASHOUT, RIVERS, WATER

06855

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RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS.
HEALTH PHYSICS, VOL. 16, PP 429-440, 1969, 7 TABS., 28 REFS.
MAXIMUM PERMISSIBLE ANNUAL INTAKES TO BLOOD OF SEVERAL TRITIATED COMPOUNDS, NAMELY, WATER, POLIC ACID, CORTICOSTEROIDS, SEX-HORMONES AND THYMIDINE, HAVE BEEN ESTIMATED ON THE BASIS OF AVERAGE DOSES BY RECEIVED ORGANS AND TISSUES AND FROM EXPERIMENTS ON RATS. THE VALUES RANGE FROM 10 MCI FOR TRITIATED THYMIDINE AND POLIC ACID TO 1 OR 2 CI FOR TRITIATED CORTICOSTEROIDS. VALUES FOR CORRESPONDING C-14 LABELLED COMPOUNDS WILL, IN GENERAL, BE LOWER BECAUSE OF THE HIGHER ENERGIES OF THE C-14 BETA-PARTICLES. DOSIMETRY IN CELLS IS CONSIDERED, PARTICULARLY IN RELATION TO TRITIUM AND C-14 LABELLED THYMIDINE. QUESTIONS CONCERNING THE IMPORTANCE OF INHOMOGENEITY OF ABSORBED ENERGY IN MICROSCOPIC VOLUMES ARE DISCUSSED IN RELATION TO THE USE OF AVERAGE DOSE AS THE BASIS FOR SETTING MAXIMUM PERMISSIBLE LEVELS OF DOSE AND INTAKES OF TRITIUM AND C-14 LABELLED COMPOUNDS. (AUTH.)
H-3, C-14, RADIONUCLIDES, BLOOD, TRITIATED WATER, WATER, RATS, MAN, TRITIATED POLIC ACID, TRITIATED CORTICOSTEROIDS, COMPOUNDS, ANIMALS, TRITIATED THYMIDINE, TRITIATED SEX-HORMONES, TRITIATED COMPOUNDS, C-14 LABELLED COMPOUNDS, TAGGING, TOXICITY, RODENTS, MAMMALS, CELLS, MAXIMUM PERMISSIBLE CONCENTRATION, VITAMINS, NUCLEOSIDES, TISSUES, DOSE ESTIMATION

06856

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ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER.
NATURE, VOL. 192, NO. 4809, PP 1279-1280, 1961, 7 REFS.
IT IS POSTULATED THAT TRITIATED METHANE IS THE PRODUCT OF THERMONUCLEAR WEAPONS TESTS. A POSSIBLE MECHANISM INVOLVING A REDUCING CORE WITHIN THE FIREBALL OF A THERMONUCLEAR EXPLOSION. THE REDUCING CORE HYPOTHESIS ALSO SUGGESTS THE ORIGIN OF THE HIGH TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN DERIVED FROM THE THERMONUCLEAR TEST AREA.
TRITIATED HYDROGEN, TRITIATED WATER, TRITIATED METHANE, H-3, C-14, TRITIATED COMPOUNDS, THERMONUCLEAR EXPLOSIONS, STRATOSPHERE, GASES, RADIONUCLIDES, ENVIRONMENTAL RADIATION, RADIATION, EXPLOSIONS, WATER, NUCLEAR EXPLOSIONS

GEORG MATTHES, LUTZ THILO, WOLFGANG ROETHER, AND KARL OTTO MUENNICH
TRITIUMGEHALTE IN WASSER TIEFERER GRUNDWASSERSTOCKWERKE. [TRITIUM CONTENT OF WATER IN DEEP GROUNDWATER BASINS.]
GAS- UND WASSERFACH, VOL. 109, NO. 14, PP 353-355, 1968, 1 TAB., 8 REFS.

TRITIUM DATING OF A GROUNDWATER SYSTEM UNDER AN EXTENDED AQUICLUDE (SCHLUECHTERNER BECKEN, SCHLUECHTERN, GERMANY) GIVES A VELOCITY OF GROUNDWATER FLOW IN A REASONABLE RANGE OF 30 TO 60 CM/DAY, WHEREAS IN A SYSTEM WHERE THE AQUICLUDES ARE LIMITED HORIZONTALLY (OBERRRHEINTAL, RHINE VALLEY, GERMANY) IRREGULAR PENETRATION IS FOUND. (AUTHS.)
H-3, RADIONUCLIDES, GROUND WATER, WATER, HYDROLOGY, TRACERS, RADIOACTIVE AGE DETERMINATION, AQUIFERS

06858

ADOLF ZUPPINGER, GUELPO G. PORETTI, PETER ZAORALEK, AND HUGO AEBI
UNIVERSITY OF BERN, SWITZERLAND
STRAHLENBEDINGTE STÖRUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ. [RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES.]
STRAHLENTHERAPIE, VOL. 118, PP 42-45, 1962, 2 FIGS., 4 REFS.

A CHANGE OF THE TRITIUM INCORPORATION FROM INTRAPERITONEALLY ADMINISTERED TRACER AMOUNTS OF TRITIATED WATER INTO THE ORGANIC CELL SUBSTANCE OF THE LIVER AND BRAIN OCCURRED IN TOTAL BODY IRRADIATED MICE. THE DISTURBANCE SHOWED A BIPHASIC COURSE. AN INITIALLY STRONG INCREASE OF THE INCORPORATION CHANGED INTO A NEGATIVE PHASE AT THE END OF THE 2ND WEEK AFTER IRRADIATION. (AUTHS.)
H-3, RADIONUCLIDES, TRITIATED WATER, WATER, MICE, ANIMALS, LIVER, ORGANIC CELL SUBSTANCES, BRAIN, TISSUES, IRRADIATION, LABELING, ORGANS, RODENTS, MAMMALS, METABOLISM

06859

E. J. HALL, R. OLIVER, AND J. S. BEDFORD
CHURCHILL HOSPITAL, DEPTS. OF RADIOTHERAPY AND RADIATION PHYSICS, OXFORD, ENGLAND
THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE.
BRITISH JOURNAL OF RADIOLOGY, VOL. 40, PP 704-710, 1967, 5 FIGS., 4 TABS., 19 REFS.

THE RELATIVE BIOLOGICAL EFFECTIVENESS (RBE) OF THE BETA PARTICLES FROM TRITIUM IN WATER RELATIVE TO RADIUM OR COBALT-60 GAMMA RADIATION WAS DETERMINED FOR HELA CELLS CULTURED IN VITRO. FOR CELL POPULATION GROWTH RATE UNDER CONTINUOUS IRRADIATION AT 0.5 TO 3.0 RADS/HR THE RBE WAS ABOUT 2.0. FOR CELL SURVIVAL FOLLOWING EXPOSURES AT 32 RADS/HR THE RBE WAS ABOUT 1.0. USING INHIBITION OF ROOT GROWTH OF VICIA SEEDLINGS AS A TEST SYSTEM RBE, VALUES OF 1.6 AND 1.0 WERE MEASURED AT DOSE RATES OF 1.52 AND 46.3 RADS/HR. (FROM AUTH. ABSTR.)

H-3, CO-60, RADIUM, RADIONUCLIDES, BETA RADIATION, GAMMA RADIATION, IRRADIATION, RADIATION, DOSE RATES, RELATIVE BIOLOGICAL EFFECTIVENESS, CELLS, TRITIATED WATER, WATER, VICIA, LEGUMINOSAE, FLOWERING PLANTS, PLANTS, HELA CELLS, GROWTH, ROOTS, SEEDLINGS, RADIATION EFFECTS

06860

W. R. MCMAHUS, R. K. PRICHARD, CAROLYN BAKER, AND M. V. PETRUCHENIA
UNIVERSITY OF NEW SOUTH WALES, KENSINGTON, N.S.W., AUSTRALIA
ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES.
JOURNAL OF AGRICULTURAL SCIENCE, VOL. 72, PP 31-40, 1969, 4 FIGS., 5 TABS., 18 REFS.

AS JUDGED BY THE SPECIFIC ACTIVITY OF BLOOD WATER COMPARED TO THAT OF WATER FROM THE WHOLE BODY MACERATE, EQUILIBRATION IN MATURE RATS EITHER IN STABLE BODY CONDITION OR UNDERGOING RAPID COMPENSATORY GROWTH OCCURRED IN LESS THAN 60 MIN. A TRIAL COMPARING HTO-SPACE (CORRECTED BY 3% BODY WEIGHT) AND ACTUAL TBW (TOTAL BODY WATER) (BY DESICCATION) WAS CONDUCTED ON THIRTY RABBITS WHICH EXPERIENCED UNDER-NUTRITION FOLLOWED BY COMPENSATORY GROWTH. PRIOR TO UNDER-NUTRITION THE AGREEMENT BETWEEN ACTUAL AND ESTIMATED TBW WAS SATISFACTORY AND WITHIN 2.3%. DURING COMPENSATORY GROWTH THE AGREEMENT WAS POOR-- THE HTO (TRITIATED WATER) VALUES OVER-ESTIMATING ACTUAL TBW BY ABOUT 12%. A TRIAL WITH MATURE RATS CONFIRMED THE FINDINGS WITH RABBITS. FOR RATS IN STABLE BODY WEIGHT THE MEAN ESTIMATED HTO-SPACE FOR FOURTEEN ANIMALS WAS WITHIN 1.2% OF THE ACTUAL TBW. FOR FOURTEEN RATS UNDERGOING COMPENSATORY GROWTH THE MEAN ESTIMATED HTO-SPACE (CORRECTED BY 3% BODY WEIGHT) OVERESTIMATED ACTUAL TBW BY 6.2%. (AUTHS.)

H-3, RADIONUCLIDES, TRITIATED WATER, WATER, RABBITS, RATS, ANIMALS, TOTAL BODY WATER, SPECIFIC ACTIVITIES, RADIATION, RODENTS, MAMMALS, WEIGHT

06861

WALTER NINDER
SWISS BOARD OF HEALTH, BERN, SWITZERLAND
INTERNE KONTAMINATION MIT TRITIUM. [INTERNAL CONTAMINATION BY TRITIUM.]
STRAHLENTHERAPIE, VOL. 137, PP 700-704, 1969, 2 FIGS., 1 TAB., 7 REFS. (ALSO ENGL. TRANSL., U.S. AEC REPORT CONF-680657, 7 P.)

REPEATED AND LONG LASTING INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS IN AIR LED TO VERY SERIOUS CONTAMINATION EFFECTS WITH FATAL CONSEQUENCES IN ONE CASE. CONTROLS OF TRITIUM CONTENT IN URINE DURING 16 MONTHS AFTER STOPPING WORK WITH RADIOACTIVE MATERIAL SHOWED AT LEAST TWO DIFFERENT ELIMINATION VELOCITIES, ONE CORRESPONDING TO BIOLOGICAL HALF LIFE OF SURELY MORE THAN FOUR MONTHS, THE OTHER OF THE ORDER OF MAGNITUDE OF WEEKS. DEFINITE FIGURES ARE RATHER STRONGLY INFLUENCED BY THE MODE OF CALCULATION. RESULTING VALUES RANGE BETWEEN 10.5 AND ABOUT 30 DAYS FOR THE SHORT AND BETWEEN 139 AND ABOUT 230 DAYS FOR THE LONG HALF LIFE. TRITIUM CONCENTRATIONS IN PATHOLOGICAL PREPARATIONS OF MUSCLES, KIDNEY, LIVER, SPLEEN AND LUNGS WERE ABOUT TEN TIMES HIGHER THAN IN THE LAST EXCRETIONS. IN ALL INVESTIGATED ORGANS TRITIUM WAS FOUND IN A FORM COMPLETELY UNSOLUBLE IN WATER. (AUTH.)

H-3, RADIONUCLIDES, GASES, URINE, MUSCLE, KIDNEY, LIVER, SPLEEN, LUNGS, BIOLOGICAL HALF-LIFE, HALF-LIFE, ORGANS, MORTALITY, PAINTS, RADIOACTIVE LUMINOUS PAINTS, TISSUES, MAN, RADIATION EXPOSURE, MAXIMUM PERMISSIBLE CONCENTRATION, UPTAKE, RETENTION, ELIMINATION

06862

YU. I. MOSKALEV AND V. P. ZHURAVLEV
EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE. (K EKSPERIMENTAL'NOMU OBOZNOVANIYU PREDEL NO DOPUSTIMOY KONTSENTRATSII OKISI TRITIYA.)
HYGIENE AND SANITATION (USSR), (ENGL. TRANSL. OF GIGIENA I SANITARIYA), VOL. 33, NO. 10-12, PP 52-57, 1968, 1 TAB., 11 REFS.

THE PAPER PRESENTS DATA ON THE PHYSICAL PROPERTIES OF TRITIUM, THE KINETICS OF ITS ACCUMULATION AND DISTRIBUTION IN THE ORGANS AND TISSUES. THE AUTHOR SUGGESTS MEANS OF CALCULATING THE AMOUNT OF TRITIUM INTRODUCED INTO THE BODY AND THAT OF SUBSTANTIATING THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE IN THE AIR OF INDUSTRIAL PREMISES. SHORT DATA ON THE BIOLOGICAL ACTION OF TRITIUM OXIDE AND THE COEFFICIENT OF ITS GENERAL BIOLOGICAL EFFECT ARE GIVEN. A NEW LEVEL OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE IN THE AIR OF INDUSTRIAL PREMISES IS SUGGESTED TO AMOUNT TO 5 X 10 MINUS 9 CURIE/L. (AUTHS.)

MAXIMUM PERMISSIBLE CONCENTRATION, H-3, RADIONUCLIDES, RATS, ANIMALS, TRITIUM OXIDE, RELATIVE BIOLOGICAL EFFECTIVENESS, OXIDES, RODENTS, MAMMALS, TISSUES, DOGS, DOMESTIC ANIMALS, MAN, BODY BURDEN

06863

F. MAURO, G. GIOVANNOLZI-SERMANNI, AND M. BOTRE
UNIVERSITY OF ROME, ITALY
VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA. [VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E. COLI).]
RICERCA SCIENTIFICA, PT. 2, RENDICONTI, SEZIONE B, BIOLOGICA, VOL. 3, NO. 4, PP 403-412, 1963, 4 FIGS., 2 TABS., 62 REFS.

EFFECTS ON BACTERIOPHAGE BURST SIZE AND GROWTH AFTER BETA- IRRADIATION (TRITIUM WATER TREATMENT) OF THE HOST BACTERIUM BEFORE INFECTION ARE REPORTED AND DISCUSSED. (AUTHS.)

BETA RADIATION, HOSTS, BACTERIA, MICROORGANISMS, ESCHERICHIA, BACTERIA, GROWTH, RADIATION EFFECTS

06864

D. LAL AND RAMA

TATA INSTITUTE OF FUNDAMENTAL RESEARCH, COLABA, BOMBAY, INDIA

CHARACTERISTICS OF GLOBAL TROPOSPHERIC MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 71, NO. 12, PP 2865-2874, 1966, 8 FIGS., 16 REFS.

STUDY OF GLOBAL DISPERSION OF RADIOCARBON, RADIOHYDROGEN, AND RADIOSTRONTIUM INJECTED IN THE ATMOSPHERE BY RECENT SOVIET NUCLEAR TESTS SUPPORTS THE EXISTENCE OF THE 0-30 DEGREES NADLEY MERIDIONAL CIRCULATION CELL. THE RATE OF MERIDIONAL MIXING WITHIN THE TROPOSPHERE IS EVALUATED; THE ANALYSIS REVEALS A STRONG SEASONAL DEPENDENCE FOR THE EXCHANGE OF AIR ACROSS 30 DEGREES N LATITUDE IN THE TROPOSPHERE. THE ANNUAL MASS TRANSPORT OF AIR ACROSS THE EQUATOR IS EVALUATED. (AUTHS.)

SOVIET NUCLEAR TESTS, TROPOSPHERIC EXCHANGE, ATMOSPHERE (TERRESTRIAL), RADIONUCLIDES, SR-90, C-14, H-3, TROPOSPHERE, ENVIRONMENTAL RADIATION, MIXING, MASS TRANSPORT, EXPLOSIONS, NUCLEAR EXPLOSIONS, FALLOUT, GLOBAL, MODELS, TERRESTRIAL

06865

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ON THE DIFFERENCE BETWEEN THE LETHAL EFFECTS OF H-3 AND P-32 IN BACTERIA.

RADIATION RESEARCH, VOL. 29, PP 18-32, 1966, 4 FIGS., 1 TAB., 27 REFS.

THE LETHAL EFFECTS OF INCORPORATED RADIOISOTOPES INTO BACTERIAL POPULATIONS LABELED DURING LOGARITHMIC GROWTH ARE ANALYZED. A MODEL IS PRESENTED WHICH IS IN ACCORD WITH EXPERIMENTAL OBSERVATION, IN WHICH IT IS ASSUMED THAT THE GENETIC MATERIAL AND CELL CONSTITUENTS ARE SYNTHESIZED ALMOST CONSTANTLY AND EXPONENTIALLY THROUGHOUT THE CELL DIVISION CYCLE. TOGETHER WITH AN ASSUMPTION THAT CELL DIVISION ENSUES WHEN THE CELL REACHES A CRITICAL SIZE, IT IS SHOWN THAT THE DNA PER CELL IS DISTRIBUTED ACCORDING TO THE SAME INVERSE-SQUARE DISTRIBUTION LAW THAT APPLIES TO CELL SIZE. THE PROPERTIES OF THIS DISTRIBUTION HAVE BEEN GIVEN PREVIOUSLY. FINALLY, THE ANALYSIS TAKES INTO ACCOUNT THE FACT THAT NUCLEAR BODY SEPARATION IS MIDWAY BETWEEN CELL DIVISIONS. (AUTH.)

H-3, P-32, RADIONUCLIDES, BACTERIA, MICROORGANISMS, DNA, CELLS, MODELS, MORTALITY, CYTOLOGY, ESCHERICHIA, GENETICS, INACTIVATION, MATHEMATICAL MODELS, CHROMOSOMES, RADIATION EFFECTS

06866

THOMAS K. HODGES AND YOASH VAADIA

UNIVERSITY OF CALIFORNIA, DEPT. OF IRRIGATION, DAVIS, CALIF.

UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS.

PLANT PHYSIOLOGY, VOL. 39, PP 104-108, 1964, 9 FIGS., 1 TAB., 29 REFS.

THE UPTAKE AND TRANSPORT OF RADIOCHLORIDE (CL-36) AND TRITIATED WATER BY DIFFERENT ROOT ZONES OF INDIVIDUAL EXUDING ONION (ALLIUM CEPA) ROOTS OF DIFFERENT CHLORIDE STATUS WAS DETERMINED. THE TERMINAL 3 CM OF THE ROOT WAS MOST ACTIVE IN CL-36 ACCUMULATION AND TRANSPORT TO THE EXUDATE. THE UPTAKE AND MOVEMENT OF TRITIATED WATER TO ROOT EXUDATES WAS UNAPPECTED BY THE CHLORIDE STATUS OF THE TISSUE. THE 6 TO 9 CM ZONE APPEARED TO ABSORB THE TRITIATED WATER (HTO) MOST RAPIDLY. ADJACENT ROOT ZONES HAD ONLY A TRACE OF HTO.

H-3, CL-36, RADIONUCLIDES, TRITIATED WATER, WATER, EXUDATE, ABSORPTION, TRANSPORT, ALLIUM, LILIACEAE, ROOTS, METABOLISM, UPTAKE, PHYSIOLOGY, CELL EXUDATE, RETENTION

06867

CHARLES W. CARLSTON

U.S. GEOLOGICAL SURVEY, WASHINGTON, D. C.

TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS OF THE U.S. GEOLOGICAL SURVEY RESEARCH PROGRAM.

SCIENCE, VOL. 143, PP 804-806, 1964, 2 FIGS., 3 REFS.

IN GENERAL TRITIUM IS OF LIMITED USEFULNESS AS A TOOL IN HYDROLOGIC STUDIES BECAUSE THE TRITIUM CONTENT OF GROUND WATER, AS A RESULT OF RADIOACTIVE DECAY, BECOMES TOO LOW TO BE DETECTABLE AFTER ABOUT 50 YEARS. NEVERTHELESS, A UNIQUE STUDY WAS MADE OF THE HYDROLOGIC CYCLE OF SMALL STREAM BASINS IN WISCONSIN AND NEW JERSEY ON THE BASIS OF MEASUREMENTS RELATIVE TO THE PEAK OF TRITIUM FALLOUT IN THE SPRING OF 1958. THE CONTINENTAL AND THE COASTAL BASINS RECEIVED APPROXIMATELY THE SAME TRITIUM FALLOUT. APPROXIMATELY 30% WENT INTO GROUND WATER STORAGE, THE REMAINDER BEING EXPORTED AS RUNOFF AND EVAPOTRANSPIRATION. THE MEAN RESIDENCE TIME FOR GROUND WATER RECHARGE FOR THE TWO BASINS WAS 45 AND 60 DAYS, RESPECTIVELY. (AUTH.)

H-3, RADIONUCLIDES, HYDROLOGICAL CYCLING, RESEARCH, GROUND WATER, RADIOACTIVE DECAY, HALF-LIFE, HYDROLOGY, FALLOUT, AQUIPERS, RADIATION, NEW JERSEY, WISCONSIN, ENVIRONMENTAL RADIATION

06868

P. BEGEMANN

MAX PLANCK-INSTITUT FUER CHEMIE, MAINZ, GERMANY

THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE.

IN- EARTH SCIENCE AND METEORITICS. J. GEISS AND B. D. GOLDBERG, COMPS. AMSTERDAM, NORTH-HOLLAND PUBLISHING CO. PP 169-187, 1963, 5 FIGS., 3 TABS., 32 REFS.

TRITIUM IS KNOWN TO OCCUR IN THREE DIFFERENT CHEMICAL COMPOUNDS IN THE TERRESTRIAL ATMOSPHERE- IN WATER, IN MOLECULAR HYDROGEN, AND IN METHANE. THE TRITIUM CONTENT OF STRATOSPHERIC MOISTURE MUST BE EXPECTED TO BE HIGHER BY ABOUT FIVE ORDERS OF MAGNITUDE THAN THAT OF TROPOSPHERIC MOISTURE WHILE FOR MOLECULAR HYDROGEN THE TRITIUM LEVELS CANNOT BE DIFFERENT BY MORE THAN A FACTOR OF TWO.

FOR METHANE NO SUCH ESTIMATE CAN BE MADE AS THE SOURCE OF THE TRITIATED METHANE IS NOT YET KNOWN DEFINITELY. SINCE THE ADDITION OF MAN MADE TRITIUM TO THE NATURAL INVENTORY, THE TRITIUM CONTENT OF MOLECULAR HYDROGEN HAS BEEN INCREASED BY MORE THAN A FACTOR OF TWENTY CONDITIONS. FROM 1953 TO 1958 THE TRITIUM LEVEL IN ATMOSPHERIC METHANE COLLECTED IN THE SOUTHERN HEMISPHERE INCREASED BY A FACTOR OF TEN. IT IS SHOWN THAT THE INCREASE IN THE SOUTHERN HEMISPHERE TRITIUM LEVEL CANNOT BE EXPLAINED BY ASSUMING A POINT SOURCE INJECTION OF ALL THE EXCESS TRITIATED METHANE INTO THE NORTHERN TROPOSPHERE. IT MUST RATHER HAVE INCREASED IN A SIMILAR WAY AS IN THE SOUTHERN HEMISPHERE. H-3, RADIONUCLIDES, TRITIATED HYDROGEN, TRITIATED METHANE, GASES, TRITIATED WATER VAPOR, TRITIATED WATER, STRATOSPHERE, TROPOSPHERE, WATER, EQUATIONS, ATMOSPHERE (TERRESTRIAL), MOISTURE, NATURAL RADIATION, ENVIRONMENTAL RADIATION, RADIATION, NORTHERN HEMISPHERE, SOUTHERN HEMISPHERE, HEMISPHERES

06869

M. PEAKER, A. WRIGHT, STEPHANIE J. PEAKER, AND J. G. PHILLIPS

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ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS).

PHYSIOLOGICAL ZOOLOGY, VOL. 41, NO. 4, PP 461-465, 1968, 1 FIG., 15 REFS.

TRITIATED WATER WAS ABSORBED FROM THE CLOACA OF THE DUCK, ANAS PLATYRHYNCHOS, AFTER WATER DEPRIVATION AND AFTER THE ADMINISTRATION OF A LOAD OF HYPERTONIC SALINE THAT CAUSED NASAL SECRETION. TRITIATED WATER WAS ALSO DETECTED IN THE PLASMA OF DUCKS IN POSITIVE WATER BALANCE, BUT IT IS NOT POSSIBLE TO STATE WHETHER NET WATER ABSORPTION OCCURRED IN THESE BIRDS. (AUTHS.)

H-3, RADIONUCLIDES, TRITIATED WATER, WATER, BIRDS, ANIMALS, PLASMA, ANATIDAE, MALLARD, PHYSIOLOGY, ABSORPTION, CLOACA

06870

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PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION.

JOURNAL OF BIOLOGICAL CHEMISTRY, VOL. 241, NO. 12, PP 2891-2899, 1966, 4 FIGS., 2 TABS., 45 REFS.

FROM MEASUREMENTS OF TRITIUM INCORPORATION FOLLOWING THE PERFUSION IN SITU OF LIVERS WITH BLOOD ENRICHED IN TRITIATED WATER, THE RATE OF HEPATIC FATTY ACID AND CHOLESTEROL BIOSYNTHESIS IN YOUNG NONFATED RATS WAS FOUND TO BE 7.0 AND 0.09 MICROMOLES PER GRAM OF LIVER PER HOUR, RESPECTIVELY.

DEPRIVING A RAT OF FOOD FOR 48 HOURS REDUCED HEPATIC FATTY ACID AND CHOLESTEROL SYNTHESIS TO LESS THAN 2% THE RATE IN UNFASTED RATS. (FROM AUTHS. ABSTR.)
H-3, RADIONUCLIDES, TRITIATED WATER, TRITIUM OXIDE, WATER, RATS, ANIMALS, FATTY ACIDS, CHOLESTEROL, BIOSYNTHESIS, HEPATIC LIPOGENESIS, LIPID SECRETION, LIVER, BIOCHEMISTRY, RODENTS, MAMMALS, ORGANS, ORGANIC COMPOUNDS, UPTAKE, RETENTION

06871

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TECHNISCHE HOCHSCHULE, INSTITUT FÜR TECHNISCHE KERNPHYSIK, DARMSTADT, GERMANY

TRITIUM IN RAINWATER.

IN- EARTH SCIENCE AND METEORITICS. J. GEISS AND E. D. GOLDBERG, COMPS. AMSTERDAM, NORTH-HOLLAND PUBLISHING CO. PP 188-208, 1963, 3 FIGS., 4 TABS., 33 REFS.

THE EXPERIMENTAL TECHNIQUES FOR THE MEASUREMENT OF LOW-LEVEL ACTIVITIES OF TRITIUM ARE DESCRIBED. THE SENSITIVITIES OF THE DIFFERENT METHODS ARE COMPARED. ON THE BASIS OF RESULTS OF WORLD-WIDE RAINWATER MEASUREMENTS, A DISCUSSION OF THE FOLLOWING PROBLEMS IS GIVEN- RATE OF PRODUCTION OF TRITIUM BY THE COSMIC RADIATION, WASH- OUT TIME OF THE TROPOSPHERE, AND MIXING MECHANISM BETWEEN THE STRATOSPHERE AND THE TROPOSPHERE. APPLICATIONS OF TRITIUM DETERMINATIONS TO HYDROLOGIC PROBLEMS ARE MENTIONED. (AUTH.)

H-3, RADIONUCLIDES, RAINWATER, PRECIPITATION (METEOROLOGICAL), RADIATION, TROPOSPHERE, STRATOSPHERE, COSMIC RADIATION, NATURAL RADIATION, ENVIRONMENTAL RADIATION, RAINOUT, WASHOUT, MODELS, MATHEMATICAL MODELS, CONCENTRATION, PERIODIC VARIATIONS, HYDROLOGY, ATMOSPHERE (TERRESTRIAL)

06872

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TRITIUM CONTENT OF ANTARCTIC SNOW.

NATURE, VOL. 201, NO. 4915, PP 146-147, 1964, 1 TAB., 15 REFS.

TWO EXPLANATIONS ARE GIVEN FOR THE HIGH TRITIUM CONCENTRATIONS OF ANTARCTIC SNOW. THE FIRST IS BASED ON THE EXPECTED GLOBAL FALLOUT PATTERN FOR NATURAL TRITIUM. THE SECOND INVOLVES THE HIGH ALTITUDE OF THE SNOW FORMATION IN THE ANTARCTIC.

H-3, RADIONUCLIDES, ANTARCTIC, SNOW, PRECIPITATION (METEOROLOGICAL), CONCENTRATION, NEW ZEALAND, FALLOUT, ENVIRONMENTAL RADIATION, MONITORING

06873

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MEASUREMENT OF TRITIUM IN RAIN, CITY WATER, GROUND WATER AND HOT SPRING.

SCIENTIFIC PAPERS OF THE INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH (JAPAN), VOL. 59, NO. 1, PP 49-51, 1965, 1 FIG., 4 TABS.

CONCENTRATIONS OF TRITIUM WERE DETERMINED BY ELECTROLYTIC ENRICHMENT OF THE SAMPLES AND SUBSEQUENT COUNTING. THE RESULTS ARE TABULATED IN TRITIUM UNITS.

H-3, RADIONUCLIDES, RAINFALL, PRECIPITATION (METEOROLOGICAL), CITY WATER, GROUND WATER, HOT SPRING, WATER, ELECTROLYTIC ENRICHMENT, MONITORING, RAINWATER, TRITIATED WATER

06874

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THE MAXIMUM PERMISSIBLE CONCENTRATION OF GASEOUS TRITIUM IN THE AIR OF WORKING PREMISES.

HYGIENE AND SANITATION (USSR) (ENGL. TRANSL. OF GIGIENA I SANITARIYA), VOL. 33, NO. 7-9, PP 204-209, 1969, 2 TABS., 5 REFS.

IT IS CONCLUDED THAT THE MPC OF GASEOUS TRITIUM IN THE AIR OF WORKING PREMISES SHOULD BE TAKEN AS 2×10^{-10} CURIE PER LITER. THE CUTANEOUS PENETRATION AND RETENTION BY ANIMALS AND MEN ARE CONSIDERABLY LESS FOR GASEOUS TRITIUM THAN FOR TRITIUM OXIDE (TRITIATED WATER) VAPOR.

H-3, RADIONUCLIDES, GASES, TRITIUM OXIDE, TRITIATED WATER, WATER, MAXIMUM PERMISSIBLE CONCENTRATION, CUTANEOUS PENETRATION, MAN, SKIN, PERMEABILITY, EQUATIONS

06875

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MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION.

PLANT PHYSIOLOGY, VOL. 40, PP 378-382, 1965, 6 FIGS., 10 REFS.

TRITIUM DID NOT UNIFORMLY ENTER ENTIRE ROOT SYSTEMS DETACHED AT THE COTYLEDONARY NODE AND EXPOSED TO HTO FOR VARYING PERIODS. INFLUX OF HTO WAS MOST RAPID IN THE MIDDLE SEGMENTS OF THE ROOT SYSTEM, AND ABOUT EQUALLY SLOW IN THE APICAL AND BASAL ROOT SEGMENTS. THE PATTERN OF TRITIUM FLUX INTO ENTIRE ROOT SYSTEMS ATTACHED TO THE SHOOT IN THE DARK WAS SIMILAR TO FLUX INTO DETACHED ROOT SYSTEMS. IN THE LIGHT, HOWEVER, ENTIRE ROOT SYSTEMS ATTACHED TO THE SHOOT TOOK UP HTO AT MUCH SLOWER RATES. (AUTHS.)

H-3, RADIONUCLIDES, TRITIATED WATER, WATER, ROOTS, PLANTS, HELIANTHUS, COMPOSITAE, FLOWERING PLANTS, TRANSPORT, SEEDLINGS, UPTAKE, ABSORPTION, EQUILIBRATION, TRANSPIRATION, PHYSIOLOGY

06876

GÖRTE ÖBSTLUND AND LARS B. LUNDGREN

RADIOACTIVE DATING LABORATORY, PRESCATI, STOCKHOLM, SWEDEN

STOCKHOLM NATURAL TRITIUM MEASUREMENTS. I.

TELLUS, VOL. 16, PP 118-130, 1964, 2 FIGS., 3 TABS., 12 REFS.

AFTER A BRIEF DESCRIPTION OF METHODS AND STANDARDS FOR THE DETERMINATION OF TRITIUM IN NATURAL WATER, RESULTS ARE REPORTED ON THE CONTROVERSIAL RAIN WATER SAMPLES FROM VALENTIA, IRELAND. THE MAIN PART OF THIS PAPER IS A SELECTION OF TRITIUM AND DEUTERIUM DATA ON SAMPLES, WHICH MAY HAVE GENERAL GEOPHYSICAL INTEREST. AMONG THEM ARE LONG SERIES OF MONTHLY PRECIPITATION FROM GLOBAL AND SCANDINAVIAN NETWORKS, AND SAMPLES FROM RIVERS FEEDING INTO THE BALTIC. (AUTHS.)

H-3, RADIONUCLIDES, DEUTERIUM, PRECIPITATION (METEOROLOGICAL), WATER, BALTIC, OCEANS, RAINWATER, IRELAND, MONITORING, ELECTROLYTIC ENRICHMENT, EQUATIONS, SCANDINAVIA, LAKES, RIVERS, GROUND WATER, ICE, VEGETATION, GLOBAL

06877

A. H. W. NIAS AND L. G. LAJTHA

CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER.

NATURE, VOL. 202, NO. 4932, PP 613-614, 1964, 2 FIGS., 6 REFS.

THE COMMUNICATION REPORTS THE RESULTS OF EXPERIMENTS USING TRITIUM OXIDE (TRITIATED WATER)

AS A SOURCE OF RADIATION FOR MONOLAYER CULTURES. THE RESULTS INDICATED THAT 10-11 DAYS OF CULTURE IN TRITIATED WATER ARE REQUIRED AT THE 30 RADS PER DAY LEVEL TO SHOW A DEMONSTRABLE SLOWING OF GROWTH, WHILE IN SUBSEQUENT SUB-CULTURING AT THE SAME DOSE RATE A REPEATED INFLECTION OF THE GROWTH-CURVE OCCURS AT ABOUT FOUR DAYS AFTER SUB-CULTURING WITH A RETURN OF GROWTH RATE TO NORMAL BY ABOUT THE EIGHTH DAY.

H-3, RADIONUCLIDES, TRITIUM OXIDE, TRITIATED WATER, WATER, MAMMALIAN CELLS, CELLS, CULTURE MEDIUM, DOSE RATES, RADIATION, HELA CELLS, IRRADIATION, GROWTH RATE, RADIATION EFFECTS

06878

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TRITIUM CONCENTRATION IN PRECIPITATION, 1967-1968.

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 11, NO. 3, PP 137-140, 1970, 3 FIGS., 2 TABS., 8 REFS.

TENDS TO INCREASE DURING SPRING AND LATE SUMMER, AND DUE TO THE MODE OF PRODUCTION OF NATURAL TRITIUM, TENDS TO REACH MORE CONCENTRATED LEVELS AT HIGHER ALTITUDES.
H-3, RADIONUCLIDES, RAINFALL, PRECIPITATION (METEOROLOGICAL), ENVIRONMENTS, ALTITUDE, SEASONAL VARIATIONS, HYDROLOGICAL CYCLING, PERIODIC VARIATIONS, MONITORING, UNITED STATES, CONCENTRATION

06879

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THE NATURAL RADIOACTIVITY OF THE HUMAN BODY.
PROGRESS IN BIOPHYSICS AND BIOPHYSICAL CHEMISTRY, VOL. 11, PP 1-24, 1961, 4 FIGS., 3 TABS., 18 REFS.

INVESTIGATIONS OF THE DISTRIBUTION AND POSSIBLE SIGNIFICANCE OF RADIOACTIVE TRACE ELEMENTS (URANIUM, THORIUM, ACTINIUM, K-40, C-14, AND H-3) IN HUMAN TISSUES, THE QUESTION OF THEIR ORIGIN, AND THE AMOUNTS ACTUALLY INGESTED AND EXCRETED BY HUMANS IN THEIR NORMAL OR ABNORMAL METABOLISM ARE REPORTED. THE AUTHOR EMPHASIZES THAT THE HUMAN BODY EXHIBITS NATURAL LEVELS OF RADIOACTIVITY AND CONSEQUENTLY EFFORTS TO STUDY THE RADIATION EFFECTS OF THE SURROUNDING ENVIRONMENT MUST BE CONDUCTED WITH CONSIDERATION OF THESE TRACE ELEMENTS. EXTENSIVE INVESTIGATIONS OF THE RADIOACTIVE CONTENT OF 200 TYPES OF FOOD WERE CARRIED OUT IN ORDER TO TRACE THE ORIGIN OF THE NATURAL RADIOACTIVITY OF HUMAN TISSUES.
URANIUM, THORIUM, ACTINIUM, K-40, C-14, H-3, RADIONUCLIDES, FOODS, METABOLISM, TISSUES, RADIATION, WATER, TRACE ELEMENTS, MAN, REVIEW, INGESTION, EXCRETION, NATURAL RADIATION, RADIATION EFFECTS

06880

C. F. SMITH AND P. F. MOMYER
UNIVERSITY OF CALIFORNIA, LIVERMORE, CALIF.
GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-71314 (REV. 1); PNE-G-10. 28 P., FEB. 1969, 10 FIGS., 4 TABS.

DATA RELATING TO THE CHEMICAL AND RADIOCHEMICAL RESULTS FROM PROJECT GASBUGGY CHIMNEY GAS SAMPLES OBTAINED PRIOR TO 210 DAYS AFTER THE DETONATION ARE PRESENTED FOR SIGNIFICANT NON-RADIOACTIVE COMPONENTS OF THE GAS FOR TRITIUM AND KRYPTON-85. KRYPTON-85 CONCENTRATION REMAINED ESSENTIALLY CONSTANT OVER THE ENTIRE SAMPLING PERIOD. TRITIUM WAS OBSERVED PRIMARILY AS HYDROGEN AT EARLY TIMES. A RAPID DECREASE IN HT CAME WITHIN THE FIRST MONTH CONVERTING MOST OF THE HT TO HTO, BUT PRODUCING SOME TRITIATED METHANE AND ETHANE. THE PREDOMINANT TRITIUM-CONTAINING SPECIES, EXCEPT AT VERY EARLY TIMES, IS TRITIATED METHANE AT A CONCENTRATION OF 12-14 MICROCURIES PER CUBIC FOOT. H-3, KR-85, RADIONUCLIDES, TRITIATED HYDROGEN, TRITIATED METHANE, TRITIATED ETHANE, GASES, TRITIATED WATER, WATER, PROJECT GASBUGGY, PLOWSHARE PROGRAM, ENVIRONMENTAL RADIATION, NUCLEAR EXPLOSIONS, RADIATION, EXPLOSIONS, CAVITY GAS, CHEMICAL COMPOSITION, CONCENTRATION

06881

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BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, RICHLAND, WASH.
EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY - JUNE, 1967.
RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, BNWL-687. 16 P., DEC. 1967, 3 FIGS., 4 TABS., 2 REFS.

THE REPORT IS PART OF THE CONTINUAL MONITORING OF THE RADIONUCLIDE CONCENTRATION OF GROUND WATERS RESULTING FROM WASTE DISPOSAL AT THE HANFORD PROJECT. TABLES SHOW THE ANALYTICAL RESULTS FOR GROSS BETA ACTIVITY IN THE UNCONFINED AND CONFINED GROUND WATER AQUIFERS. RESULTS ARE GIVEN WHERE CONCENTRATIONS OF RADIONUCLIDES ARE ABOVE THE ROUTINE DETECTION LIMIT OF 0.08 PICOCURIES OF BETA ACTIVITY PER CC. THE GROSS BETA ACTIVITY AND TRITIUM ACTIVITY ARE PLOTTED ON WATER TABLE CONTOUR MAPS, AND ISO-CONCENTRATION LINES ARE DRAWN TO SHOW THE TWO-DIMENSIONAL EXTENT AND DIRECTION OF CONTAMINATION SPREAD.

H-3, SR-90, CS-137, RU-106-RH-106, RADIONUCLIDES, HANFORD PROJECT, GAMMA RADIATION, ALPHA RADIATION, BETA RADIATION, RADIATION, WELLS, GROUND WATER, WATER, WASTES, MONITORING, EFFLUENTS, RADIOACTIVE WASTES, ENVIRONMENTAL RADIATION, HANFORD PROJECT, AQUIFERS, RADIOACTIVE WASTE DISPOSAL

06882

W. D. ARNOLD, C. A. BLAKE, JR., AND D. J. CROUSE
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-2198. 13 P., APR. 1968, 3 FIGS., 1 TAB., 4 REFS.

A NEW SAMPLE OF UNDERGROUND TEST SHOT RUBBLE WAS RECEIVED FOR USE IN BLENDING WITH COPPER ORE TO SIMULATE NUCLEAR BROKEN ORE. THE GROSS GAMMA ACTIVITY OF THE RUBBLE WAS ABOUT 10(4) COUNTS MIN⁻¹ G⁻¹, ATTRIBUTABLE MAINLY TO RU-106, SB-125, AND CS-137. TRITIUM CONTAMINATION OF GREEN RIVER OIL SHALE AND OF THE OIL RETORTED FROM THE SHALE INCREASED WITH TIME OF EXPOSURE OF THE SHALE TO WATER VAPOR CONTAINING TRITIATED WATER IN A SEALED PLASK AT 85 DEGREES C. THE AMOUNT OF CONTAMINATION WAS LOWER WHEN THE TRITIATED WATER, CONSTANT IN QUANTITY, WAS DILUTED WITH ADDITIONAL LIGHT WATER.
(AUTHS.)

H-3, RU-106, SB-125, CS-137, RADIONUCLIDES, TRITIUM CONTAMINATION, GAMMA RADIATION, RADIATION, TRITIATED WATER, WATER, GREEN RIVER, RIVERS, NUCLEAR EXPLOSIONS, EXPLOSIONS, COPPER ORE PROCESSING, ROCK, PETROLEUM, CONCENTRATION, PLOWSHARE PROGRAM, SHALE, OIL SHALE, SEDIMENTARY ROCK

06883

H. P. ANDERSON AND W. E. SHEEHAN
MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MIAMISBURG, OHIO
ENVIRONMENTAL MONITORING REPORT; JULY - DECEMBER 1967 AND 1967 SUMMARY.
MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1464. 46 P., MAR. 1968, 3 FIGS., 11 TABS.

THE CONCENTRATION OF RADIOACTIVE MATERIALS DETECTED IN THE ENVIRONMENT SURROUNDING MOUND LABORATORY IS SUMMARIZED. RESULTS INDICATE THAT THE AVERAGE CONCENTRATION OF RADIONUCLIDES ORIGINATING FROM MOUND LABORATORY DETECTED IN THE GREAT MIAMI RIVER AND IN THE ENVIRONMENTAL AIR WAS WITHIN THE AEC SPECIFIED STANDARDS. THE TRITIUM CONCENTRATIONS WERE 2×10^{-7} AND 3×10^{-3} MICROCURIES PER CUBIC CENTIMETER IN AIR AND WATER, RESPECTIVELY. (SUMMARIZED IN RAD. HEALTH DATA REPT., VOL. 9(9), PP. 522-524, 1968.)

H-3, PU-238, PO-210, RADIONUCLIDES, MOUND LABORATORY, ENVIRONMENTS, GREAT MIAMI RIVER, RIVERS, MONITORING, ENVIRONMENTAL RADIATION, ATMOSPHERE (TERRESTRIAL), EFFLUENTS, RADIATION, RADIOACTIVE WASTES, WASTES, WATER

06884

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ORIGIN OF TRITIUM IN HYDROTHERMAL SOLUTIONS.
NATURE, VOL. 211, NO. 5046, PP 272-273, 1966, 9 REFS.

SEVERAL HYPOTHESES CONCERNING THE SOURCE OF TRITIUM IN HYDROTHERMAL SOLUTIONS ARE POSTULATED. ONE THEORY ATTRIBUTES THE TRITIUM ACCUMULATION TO THE DEPOSITION OF RADIOACTIVE URANIUM AND THORIUM BY DEEP GEOTHERMAL WATERS. ANOTHER SUGGESTS THE HIGH TRITIUM CONCENTRATIONS WERE DUE TO MIXTURE NEAR THE BORE INTAKE OF THE UNDERGROUND WATER WITH STEAM HELD IN POCKETS IN ROCK WITH SOME CONCENTRATION OF RADIOACTIVITY.

H-3, RADIONUCLIDES, TRITIATED WATER, WATER, HYDROTHERMAL SOLUTIONS, GEOTHERMAL WATERS, WATER, URANIUM, THORIUM, HOT SPRINGS, HYDROLOGY, NATURAL RADIATION, RADIATION, NEW ZEALAND

06885

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TRITIUM IN SOUTHERN HEMISPHERE PRECIPITATION 1953-1964.

TELLUS, VOL. 16, PP 105-131, 1966, 8 FIGS., 6 TABS., 38 REFS. (ALSO INS-R-32, PUBL. 1964, 69 P.)

HTO DEPOSITION IN THE SOUTHERN HEMISPHERE IS DISCUSSED IN THE LIGHT OF CURRENTLY AVAILABLE TRITIUM MEASUREMENTS OF SOUTHERN HEMISPHERE PRECIPITATION. MANY NEW RESULTS FROM THE NEW ZEALAND LABORATORY ARE PRESENTED. TOPICS DISCUSSED INCLUDE THE SEASONAL AND LATITUDINAL VARIATIONS OF HTO FALLOUT, THE FALLOUT HISTORY OF TROPOSPHERIC AND STRATOSPHERIC THERMONUCLEAR HTO, AND THE EFFECTS OF THE CONTINENTAL ENVIRONMENT UPON MANY OF THE REPORTED MEASUREMENTS. (AUTH.)

H-3, RADIONUCLIDES, TRITIATED WATER, WATER, SOUTHERN HEMISPHERE, FALLOUT, TROPOSPHERE, STRATOSPHERE, PRECIPITATION (METEOROLOGICAL), HEMISPHERES, REVIEW, MONITORING, RAINWATER, SEASONAL VARIATIONS, CONCENTRATION, SURFACE WATER, ENVIRONMENTS, ENVIRONMENTAL RADIATION, NATURAL RADIATION, RADIATION

06866

JOSEPH T. WOOLLEY

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RADIAL EXCHANGE OF LABELED WATER IN INTACT MAIZE ROOTS.

PLANT PHYSIOLOGY, VOL. 40, PP 711-717, 1965, 4 FIGS., 2 TABS., 7 REFS.

EQUILIBRATION OF MAIZE (ZEA MAYS L.) ROOTS WITH TRITIATED WATER WAS COMPARED WITH THEORETICAL CURVES FOR THE SINGLE CELL, SHEET, CYLINDER AND SPHERE, AND WAS FOUND TO FOLLOW THE CYLINDER CURVE.

THE STELE WAS REMOVED FROM ROOTS AFTER TREATMENT WITH TRITIATED WATER, AND THE EQUILIBRATION OF THE STELE WAS COMPARED WITH THAT OF THE CORTEX. IT WAS CONCLUDED THAT THE ENDODERMIS DID NOT CONSTITUTE A BARRIER TO THE DIFFUSION OF WATER. THE APPARENT DIFFUSION COEFFICIENT OF TRITIATED WATER IN A MAIZE ROOT AT 25 DEGREES WAS 5×10^{-6} CM² SEC⁻¹. THE APPARENT DIFFUSION COEFFICIENT WAS DECREASED BY METABOLIC INHIBITORS, OR LOW-TEMPERATURE TREATMENT. THE APPARENT DIFFUSION COEFFICIENT REMAINED UNCHANGED WITH TREATMENT BY DIMETHYL SULFOXIDE OR 2, 4-DICHLOROPHENOXYACETIC ACID. THE APPARENT DIFFUSION COEFFICIENT INCREASED ABOUT 3-FOLD WHEN THE ROOTS WERE KILLED WITH HOT WATER. (FROM AUTH. SUM.)

H-3, RADIONUCLIDES, TRITIATED WATER, WATER, FLOWERING PLANTS, ROOTS, CORTEX, ENDODERMIS, METABOLISM, DIFFUSION COEFFICIENT, DIFFUSION, CORN, TISSUES, CROPS, PLANTS, EQUILIBRATION, TRANSPORT, PHYSIOLOGY, UPTAKE, SEEDLINGS

06867

MARCEL W. NATHANS

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PROJECT GNOME. ISOTOPE PROGRAM; FINAL REPORT.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, PNE-102P. 120 P., AUG. 1965, 38 FIGS., 45 TABS., 6 REFS.

THE PURPOSE OF THE ISOTOPE PROGRAM IN PROJECT GNOME WAS TO STUDY THE DISTRIBUTION AND THE DISPOSITION OF A NUMBER OF NUCLIDES FOLLOWING A NUCLEAR DETONATION IN A SALT MEDIUM AS WELL AS THE MEANS BY WHICH THOSE NUCLIDES MIGHT BE RECOVERED. THE RESULTS OF GAS AND WATER ANALYSES SHOW THAT LESS THAN ONE PERCENT OF THE TRITIUM ORIGINALLY INTRODUCED WAS PRESENT IN THE CONDENSIBLE PORTION (AS HTO), THE REST BEING GASEOUS. FRACTIONATION OF FISSION PRODUCTS AND SEVERAL OF THE HEAVY ELEMENTS HAS BEEN CONSIDERABLE. (FROM AUTH. SUM.)

H-3, RADIONUCLIDES, TRITIATED WATER, PROJECT GNOME, SALT MEDIUM, GASES, FISSION PRODUCTS, FRACTIONATION, NUCLEAR DETONATION, AM-241, PU-239, EXPLOSIONS, NUCLEAR EXPLOSIONS, PLOWSHARE PROGRAM, LEACHING, GEOLOGY, GEOPHYSICS, WATER, PO-210, TH-228, U-233

06868

HAZLETON-NUCLEAR SCIENCE CORPORATION, EARTH SCIENCES DIVISION, PALO ALTO, CALIF.

PROJECT SHOAL. POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT.

PALO ALTO, CALIF., HAZLETON-NUCLEAR SCIENCE CORPORATION, EARTH SCIENCES DIVISION, VUP-1014. 50 P., FEB. 1966, 5 FIGS., 2 TABS., 14 REFS.

RE-ENTRY DRILLING AND HYDRAULIC RESULTS INDICATE THAT THE SHOAL DEVICE DETONATED AS PREDICTED AND A RUBBLE CHIMNEY 26 METERS IN RADIUS AND 108.5 METERS HIGH WAS FORMED BY THE EXPLOSION. SIGNIFICANT QUANTITIES OF RADIONUCLIDES WERE PRODUCED AT SHOAL; HOWEVER, NUCLIDES IN GROUND-WATER SOLUTION ARE NOT FREE TO MOVE FROM THE RUBBLE CHIMNEY REGION UNTIL AQUIFER STABILIZATION IS ACHIEVED AND THE CHIMNEY FILLS WITH GROUND WATER. IT IS CONCLUDED THAT SLOW GROUNDWATER FLOW VELOCITIES AND RADIOACTIVE DECAY PRECLUDE THE POSSIBILITY OF HAZARDOUS AQUEOUS CONCENTRATIONS OF RADIONUCLIDES MIGRATING MORE THAN ONE THOUSAND METERS FROM THE IMMEDIATE DETONATION AREA. (FROM AUTH. ABSTR.)

PROJECT SHOAL, UNDERGROUND NUCLEAR EXPLOSIONS, EXPLOSIONS, NUCLEAR EXPLOSIONS, CONTAMINATION, GROUND WATER, WATER, RADIONUCLIDES, H-3, CE-144, PM-147, RU-106, CS-137, FE-55, SR-90, SB-125, EU-155, SM-151, CD-113, OD-153, TRANSPORT, MOVEMENT, HYDROLOGY, GRANITE, IGNEOUS ROCK, ROCK, VELA UNIFORM PROGRAM, GEOLOGY

06869

E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER LABORATORY, AIKEN, S.C.

PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1962.

AIKEN, S. C., E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER LABORATORY, DP-831. 132 P., 1962, FIGS., TABS., REFS.

U.S. ABC CONTRACT NO. AT(07-2)-1.

TWO HUNDRED-SIXTY ASSIMILATIONS OF TRITIUM, APPROXIMATELY ONE MILLICURIE, HAVE OCCURRED AT THE SAVANNAH RIVER PLANT IN THE PAST 5 YEARS. HALF-LIFE OBSERVATIONS AND EFFORTS TO CORRELATE THESE VALUES WITH VARIABLES ARE DISCUSSED. AN AVERAGE BIOLOGICAL HALF-LIFE FOR TRITIUM OF 9.6 ± 4.3 DAYS (90% CONFIDENCE LIMIT) WAS FOUND. SLIGHTLY HIGHER VALUES WERE OBSERVED WITH LOWER AMBIENT TEMPERATURES AND CORRESPONDINGLY LOWER HALF-LIFE VALUES WERE NOTED AT HIGHER TEMPERATURES. THERE APPEARS TO BE EVIDENCE OF A SHORTER HALF-LIFE WITH INCREASING AGE.

H-3, RADIONUCLIDES, BIOLOGICAL HALF-LIFE, BIOASSAY, TRITIATED WATER, MAN, BODY WEIGHT, AGE, TEMPERATURE, HALF-LIFE, EFFECTIVE HALF-LIFE

06890

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AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA;

ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962.

STOCKHOLM, SWEDEN, UNIVERSITY OF STOCKHOLM, U.S. ABC REPORT TID-16272. 13 P., 1962, 2 FIGS.

U.S. ABC CONTRACT NO. AT(30-1)-2458.

DATA ARE TABULATED ON THE TRITIUM CONTENT OF SAMPLES OF ATMOSPHERIC MOISTURE, RAINWATER, AND SEA WATER COLLECTED IN SWEDEN, NORWAY, IRELAND, AND ICELAND BETWEEN 1957 AND APRIL 1962.

WATER, RAINWATER, ATMOSPHERE (TERRESTRIAL), SEA WATER, SWEDEN, NORWAY, IRELAND, ICELAND, BACKGROUND RADIATION, DISTRIBUTION, H-3, RADIATION, RADIONUCLIDES, ENVIRONMENTAL RADIATION, SCANDINAVIA, MONITORING

06891

M. CALVIN

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

BIO-ORGANIC CHEMISTRY QUARTERLY REPORT; SEPTEMBER-NOVEMBER 1961.

BERKELEY, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-10032. 126 P., JAN. 1962, FIGS., TABS., REFS.

U.S. ABC CONTRACT NO. W-7405-ENG-48.

A STATISTICALLY SIGNIFICANT INCREASE IN THE NUMBER OF USUAL PROGENY FROM D(2)O-TREATED MALES OVER CONTROL MALES OF DROSOPHILA MELANOGASTER WAS FOUND. SUGGESTIONS THAT PART OF THE D(2)O-EFFECT MIGHT BE DUE TO THE RELATIVELY HIGH TRITIUM CONTENT OF SOME OF THE D(2)O STOCK SOLUTIONS WERE NOTE SUBSTANTIATED BY EXPERIMENTS IN WHICH CONTROLLED AMOUNTS OF TRITIUM WERE ADDED TO D(2)O. HOWEVER, TRITIUM ALONE CAUSED THE OCCURRENCE OF A MUTANT IN TWO CONSECUTIVE EXPERIMENTS.

RADIATION EFFECTS, DIPTERA, INSECTS

06892

T. H. ESSIG

BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, RICHLAND, WASH.
 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY - DECEMBER, 1967.
 RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, BNWL-835. 14 P.,
 JULY 1968, 2 FIGS., 4 TABS., 2 REFS.

OVER 500 WELLS ARE ANALYZED IN A SURVEILLANCE PROGRAM TO DETERMINE THE CONCENTRATION OF RADIONUCLIDES IN GROUND WATER. GROUND WATER SAMPLES NEAR THE 200-AREA ARE ANALYZED FOR TOTAL BETA, TRITIUM AND NITRATE. OTHER ROUTINE GROUND WATER ANALYSES INCLUDE TOTAL ALPHA, SR-90, CS-137, AND CO-60. RU-106 AND H-3 ARE PRESENT BENEATH THE HANFORD PROJECTS AND THEIR CONCENTRATIONS ARE PRESENTED ON MAPS. GROUND WATER, WATER, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, H-3, HYDROGEOLOGY, HANFORD PROJECT, WELLS, RADIONUCLIDES, RU-106, SR-90, CS-137, CO-60, CONTAMINATION, RADIOACTIVITY, NITRATES, NITROGEN COMPOUNDS, EFFLUENTS, AQUIPERS, MONITORING, ENVIRONMENTAL RADIATION

06893

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TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN.

TELLUS, VOL. 10, PP 249-255, 1966, 5 FIGS., 1 TAB., 22 REFS.

THE INCREASES IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN OVER THE PAST TEN YEARS ARE DISCUSSED.

IT IS FOUND THAT THE INCREASES IN THE TRITIUM CONCENTRATION OCCUR IN STEPS ABOUT 2 TO 2.5 YEARS AFTER MAJOR THERMONUCLEAR TEST SERIES. IT IS CONCLUDED THAT MOST OF THE HT FORMED BY THERMONUCLEAR EXPLOSIONS IS INJECTED INTO UPPER STRATOSPHERIC LEVELS AND SUBSEQUENTLY FOLLOWS THE MIXING PATTERN OBSERVED FOR THE HIGH ALTITUDE TRACER RHODIUM-102. (AUTH.)
 ATMOSPHERE (TERRESTRIAL), HYDROGEN, GASES, FALLOUT, RH-102, H-3, TROPOSPHERE, STRATOSPHERE, THERMONUCLEAR TESTING, RADIONUCLIDES, DEUTERIUM, ATMOSPHERIC TESTING, NUCLEAR TESTING, EXPLOSIONS, NUCLEAR EXPLOSIONS, ENVIRONMENTAL RADIATION

06894

BARBARA CHIPPERFIELD

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TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE.

INTERNATIONAL JOURNAL OF CANCER, VOL. 2, PP 381-395, 1967, 9 FIGS., 4 TABS., 24 REFS.

COMPARISONS OF THE UPTAKE INTO TUMOUR BIOPSIES 30 MIN AFTER INTRAVENOUS OR INTRA-ARTERIAL INJECTIONS SHOWED THAT TUMOURS OF GASTROINTESTINAL ORIGIN TOOK UP SIGNIFICANTLY GREATER AMOUNTS OF THE TRITIATED DRUGS THAN DID ANY OTHER GROUP OF TUMOURS, AND WITH OTHER TYPES OF TUMOURS SOME INDIVIDUAL BIOPSIES SHOWED VERY HIGH TUMOUR SPECIFIC ACTIVITIES AFTER INTRA-ARTERIAL INJECTIONS.

THE TRITIUM IN THE TUMOUR DISAPPEARED BY TWO EXPONENTIAL DECAY PROCESSES, ONE WITH A HALF-LIFE OF 1.35 DAYS AND THE OTHER WITH A HALF-LIFE OF 14.4 DAYS. THE RATIO OF THE CONCENTRATION OF THE LONG-LIVED COMPONENT TO THAT OF THE SHORT-LIVED COMPONENT WAS 0.33. TRITIUM ESTIMATIONS ON NORMAL TISSUES TAKEN AT AUTOPSY FROM PATIENTS WHO RECEIVED ONLY ONE INJECTION OF THE TRITIATED DRUG SHOWED THAT THE BIOLOGICAL HALF-LIFE IN NORMAL TISSUES RANGED FROM 5.7 DAYS (HEART) TO 34.5 DAYS (LONG-LIVED COMPONENT IN BRAIN). THE INITIAL SPECIFIC ACTIVITY IN MICRO C/G FOR EACH C/KG INJECTED RANGED FROM 71 (LONG-LIVED COMPONENT IN BRAIN) TO 505 (KIDNEY). AFTER A SINGLE INJECTION OF 1 C OF THE DRUG PER KG BODY WEIGHT, THE GREATEST DOSES OF RADIATION WERE RECEIVED BY THE KIDNEY (1,600 R), TESTIS (1,300 R), LIVER (1,050 R) AND BRAIN (990 R). THE LOWEST DOSES WERE RECEIVED BY SKELETAL MUSCLE (395 R) AND BONE MARROW (604 R). (AUTH.)

H-3, RADIONUCLIDES, TRITIATED DRUGS, ABSORPTION, TUMORS, DOSE RATES, BIOLOGICAL HALF-LIFE, SPECIFIC ACTIVITIES, MAN, KIDNEY, TESTIS, LIVER, BRAIN, MUSCLE, BONE MARROW, HALF-LIFE, CANCER, DISEASES, ORGANS, TISSUES

06895

A. NIR, S. T. KRUGER, R. B. LINGENFELTER, AND E. J. PLAMM

A. NIR AND S. T. KRUGER, WEIZMANN INSTITUTE OF SCIENCE, ISOTOPE DEPT., REMOVOTH, ISRAEL; R. E.

LINGENFELTER AND E. J. PLAMM, UNIVERSITY OF CALIFORNIA, INSTITUTE OF GEOPHYSICS AND PLANETARY PHYSICS, LOS ANGELES, CALIF.

NATURAL TRITIUM.

REVIEWS OF GEOPHYSICS, VOL. 4, NO. 4, PP 441-456, 1966, 2 FIGS., 3 TABS., 84 REFS.

THE SUBJECT OF NATURAL TRITIUM IS REVIEWED FROM THE INCEPTION OF THE SEARCH FOR THIS ISOTOPE IN 1932 UNTIL THE PRESENT. THREE SOURCES OF NATURAL TRITIUM ARE CONSIDERED: PRODUCTION IN THE ATMOSPHERE BY GALACTIC COSMIC RAYS, PRODUCTION IN THE ATMOSPHERE BY SOLAR FLARE ACCELERATED PARTICLES, AND ACCRETION FROM THE SUN. A RECALCULATION OF THE COSMIC-RAY PRODUCTION RATE UTILIZING EXPERIMENTAL DATA FOR THE LAST SOLAR CYCLE YIELDS A WORLDWIDE AVERAGE OF 0.20 PLUS OR MINUS .09 TRITON-CM(2) SEC DURING SOLAR MINIMUM AND 0.16 PLUS OR MINUS .09 TRITON-CM(2) SEC DURING SOLAR MAXIMUM. PRODUCTION OF TRITIUM BY INTERACTION OF SOLAR FLARE ACCELERATED PARTICLES WITH THE ATMOSPHERE IS FOUND TO BE LESS THAN 3% OF THE PRODUCTION BY GALACTIC COSMIC RAYS. CALCULATIONS OF THE TRITIUM DECAY RATE FROM MATERIAL BALANCE, UTILIZING MEASURED TRITIUM CONCENTRATIONS OF RAIN AND OCEAN WATER CORRECTED FOR SYNTHETIC TRITIUM, ARE CONSISTENT WITHIN THE LIMITS OF ERROR WITH THE PRODUCTION RATE BY GALACTIC COSMIC RAYS. THE BEST ESTIMATE OF THE PRE-BOMB INVENTORY CORRESPONDS TO A DECAY RATE OF 0.5 PLUS OR MINUS .3 TRITON-CM(2) SEC AS COMPARED WITH THE ESTIMATED PRODUCTION RATE OF 0.19 PLUS OR MINUS .09 TRITON-CM(2) SEC. IN VIEW OF THE LARGE ERRORS IT IS NOT POSSIBLE TO DETERMINE WHETHER APPRECIABLE AMOUNTS OF TRITIUM ARE ACCRETED FROM THE SUN. (AUTHS.)

BACKGROUND RADIATION, PRODUCTION, ATMOSPHERE (TERRESTRIAL), ABUNDANCE, PRECIPITATION (METEOROLOGICAL), SEA WATER, ENVIRONMENTAL RADIATION, RADIATION, H-3, RADIONUCLIDES, COSMIC RADIATION, SOLAR FLARES, NATURAL RADIATION, EQUATIONS, TRITIUM BALANCE

06896

E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S. C.

EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969.

AIKEN, S.C., E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, DPST-69-30-2. 16 P., 1969, 4 FIGS., 7 TABS.

THIS REPORT PRESENTS THE RESULTS OF THE ENVIRONMENTAL MONITORING PROGRAM FOR THE ATMOSPHERE, VEGETATION, MILK, AND WATER. THE QUANTITY OF RADIOACTIVE WASTE RELEASED BY THE SAVANNAH RIVER PLANT TO ITS ENVIRONS WAS, FOR THE MOST PART, TOO SMALL TO BE DISTINGUISHED FROM NATURAL BACKGROUND RADIATION OR WAS OBSCURED BY FALLOUT FROM OFFSITE SOURCES. BETA ACTIVITY IN AIR WAS ABOUT THE SAME AS THE OBSERVED FOR THE SAME PERIOD OF 1968 AND WAS A TWOFOLD INCREASE OVER THE PREVIOUS SIX-MONTH PERIOD. RADIOACTIVE MATERIALS IN FISH FLESH CONTINUED TO BE FAR BELOW LEVELS CONSIDERED SIGNIFICANT FROM A HEALTH STANDPOINT. THE AVERAGE CONCENTRATION OF ANY RADIONUCLIDE IN RIVER WATER AT HIGHWAY 301 DID NOT EXCEED 0.3% OF THE CONCENTRATION GUIDE. (FROM AUTH. SUM.)

ENVIRONMENTS, ATMOSPHERE (TERRESTRIAL), WATER, SAVANNAH RIVER, RIVERS, BACKGROUND RADIATION, FALLOUT, ENVIRONMENTAL RADIATION, VEGETATION, MILK, DAIRY PRODUCTS, FOODS, RADIONUCLIDES, H-3, NP-239, I-131, BA-LA-140, CS-137, CE-144, RU-103, RU-106, ZR-CB-95, ZN-65, CO-60, SR-90, SR-89, MN-54, CR-51, S-35, BE-7, CE-141, MONITORING, NATURAL RADIATION

06897

EARL W. BARRETT AND LEONID HUEBNER

UNIVERSITY OF CHICAGO, CHICAGO, ILL.

ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO. 3.

CHICAGO, ILL., UNIVERSITY OF CHICAGO, DEPT. OF THE GEOPHYSICAL SCIENCES, TID-14425. 60 P., NOV. 1961, 5 FIGS., 12 REFS.

WAS EXTENDED INTO THE WINTER OF 1960-1961. THE TRITIUM CONTENTS OF CONDENSED VAPOR SAMPLES AGREE TO WITHIN THE STANDARD ERROR OF THE MEASURING TECHNIQUE WITH THE TRITIUM CONTENTS OF SIMULTANEOUSLY-OCCURRING PRECIPITATION. THIS OBSERVATION INDICATES THAT THE RATE OF TRITIUM EQUILIBRATION BETWEEN FALLING PRECIPITATION AND AMBIENT WATER VAPOR IS FAIRLY RAPID. THE CONTINUOUS SEQUENCE OF TRITIUM DATA FOR SLIGHTLY MORE THAN TWO YEARS AFTER THE CESSATION OF THERMONUCLEAR WEAPONS TESTS HAS PROVIDED MATERIAL FOR TWO STUDIES OF THE RATE OF EXCHANGE OF WATER VAPOR BETWEEN VARIOUS REGIONS OF THE ATMOSPHERE. THE DATA SEQUENCE SHOWS AN ASYMPTOTIC DECAY SUPERIMPOSED UPON AN ANNUALLY-PERIODIC CYCLE WITH PEAKS IN THE EARLY SPRING: THE FIRST STUDY ASSUMES A TWO-RESERVOIR MODEL OF THE ATMOSPHERE; THE STRATOSPHERIC RESERVOIR DISCHARGES INTO THE TROPOSPHERE WITH A RATE COEFFICIENT WHICH IS A PERIODIC FUNCTION OF TIME WITH A SPRING MAXIMUM, WHILE THE TROPOSPHERE DISCHARGES INTO THE HYDROSPHERIC SINK WITH A CONSTANT RATE COEFFICIENT. THE RATE COEFFICIENT FOR THE TROPOSPHERE IS FOUND TO BE 17.4, CORRESPONDING TO A MEAN RESIDENCE TIME FOR WATER VAPOR OF 21 DAYS. THE PERIODICALLY VARYING STRATOSPHERIC STORAGE TIME IS FOUND TO HAVE A SPRING-MINIMUM EFFECTIVE VALUE OF 0.42 YEAR, OR 153 DAYS, AND AN AUTUMN MAXIMUM OF 3.28 YEARS. THE ANNUAL-MEAN VALUE FOR THIS RESIDENCE TIME IS 117 YEARS. THE TOTAL TRITIUM CONTENT OF THE STRATOSPHERE AT THE BEGINNING OF NOVEMBER 1958 WAS 27.6 KG WHILE THAT OF THE TROPOSPHERE WAS 255 GM. THE STRATOSPHERIC BURDEN WAS REDUCED TO 1.66 KG BY THE END OF OCT 1961 BY TRANSPORT TO THE TROPOSPHERE AND RADIOACTIVE DECAY. (FROM AUTHS. SUM.) EXCHANGE, MIXING, ATMOSPHERE (TERRESTRIAL), STRATOSPHERE, TROPOSPHERE, WATER VAPOR, TRANSPORT, MODELS, METEOROLOGY, RESIDENCE TIME, H-3, RADIONUCLIDES, GASES, RAINFALL, PRECIPITATION (METEOROLOGICAL), SEASONAL VARIATIONS, PERIODIC VARIATIONS, MONITORING, EQUATIONS, ILLINOIS

06898

ARGONNE NATIONAL LABORATORY, ARGONNE, ILL.
ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL SUMMARY, 1968.

ARGONNE, ILL., ARGONNE NATIONAL LABORATORY, TID-25008. 32 P., 1968, 2 FIGS., 15 REFS.

THE RADIOACTIVITY OF THE ENVIRONMENT IS DETERMINED ON A CONTINUING BASIS BY MEASURING THE RADIOACTIVITY IN NATURALLY-OCCURRING MATERIALS COLLECTED BOTH ON AND OFF THE ARGONNE SITE. SINCE RADIOACTIVITY IS USUALLY SPREAD BY AIR AND WATER, THE ENVIRONMENTAL MONITORING PROGRAM AT ARGONNE HAS CONCENTRATED ON THESE MATERIALS. ARGON-41 AND HYDROGEN-3 (IN THE FORM OF WATER VAPOR) CONCENTRATIONS IN AIR WERE MEASURED IN THE 300 AREA NEAR THE CP-5 REACTOR BECAUSE THESE NUCLIDES ARE PRODUCED CONTINUOUSLY WHILE THE REACTOR IS IN OPERATION BY THE ACTION OF THE NEUTRONS ON AIR AND HEAVY WATER, RESPECTIVELY. THE CONCENTRATION OF TRITIUM IN THE AIR RANGED FROM 26 TO 270 PICOCURIES PER CUBIC METER FROM MAY TO DECEMBER, 1968. THE AVERAGE CONCENTRATION WAS 140 PICOCURIES PER CUBIC METER.

ARGONNE WASTE-WATER IS DISCHARGED INTO SAWMILL CREEK, A STREAM THAT RUNS THROUGH THE ARGONNE GROUNDS AND ENTERS THE DES PLAINES RIVER ABOUT 500 YARDS DOWNSTREAM FROM THE WASTE-WATER DISCHARGE. SAWMILL CREEK WAS SAMPLED ABOVE AND BELOW THE DISCHARGE TO EVALUATE THE EFFECT OF THE WASTE-WATER ON THE RADIOACTIVITY IN THE CREEK. SINCE SAWMILL CREEK EMPTIES INTO THE DES PLAINES RIVER, WHICH IN TURN FLOWS INTO THE ILLINOIS RIVER, THE RADIOACTIVITY IN THESE TWO STREAMS IS IMPORTANT IN ASSESSING THE EFFECT OF ARGONNE OPERATIONS ON THE ENVIRONMENTAL RADIOACTIVITY. THE AVERAGE CONCENTRATION OF TRITIUM IN SAWMILL CREEK DURING 1968 WAS 3×10^{-3} (3) PICOCURIES PER LITER. THE MAXIMUM CONCENTRATION WAS 32.5×10^{-3} (3) PICOCURIES PER LITER. THE CONCENTRATION WAS REDUCED TO ABOUT 590 PICOCURIES PER LITER IN THE DES PLAINES RIVER AND TO AN UNDETECTABLE LEVEL IN THE ILLINOIS RIVER. RIVERS, WASTE DISPOSAL, RADIOACTIVE WASTE DISPOSAL, RADIOACTIVITY, RADIONUCLIDES, H-3, AR-41, ILLINOIS RIVER, DES PLAINES RIVER, WATER, ATMOSPHERE (TERRESTRIAL), ENVIRONMENTS, EFFLUENTS, MONITORING, CO-58, SR-90, ENVIRONMENTAL RADIATION, RADIATION, SURFACE WATERS

06899

W. D. ARNOLD AND D. J. CROUSE
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1968.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-2399. 11 P., OCT. 1968, 3 FIGS., 1 TAB., 4 REFS.

THE TRITIUM CONTAMINATION OF OIL RETORTED FROM GREEN RIVER OIL SHALE WHICH HAD BEEN EXPOSED TO TRITIATED WATER VAPOR AT 85 DEGREES C IN A SEALED FLASK INCREASED WITH INCREASING SHALE PARTICLE SIZE. UP TO 84% OF THE TRITIUM WAS REMOVED FROM A COLUMN OF CONTAMINATED SHALE BY PASSING WATER-SATURATED AIR THROUGH THE COLUMN AT 95 DEGREES C. (AUTHS.) TRITIATED WATER, SHALE, DISTRIBUTION, THERMAL ANALYSIS, CANE, H-3, RADIONUCLIDES, ANALYSIS, PETROLEUM, NUCLEAR EXPLOSIONS, EXPLOSIONS, ENVIRONMENTAL RADIATION, RADIATION, PARTICLES, PLOWSHARE PROGRAM, OIL SHALE, SEDIMENTARY ROCK, ROCK

06900

MORRIS J. ENGELKE AND EDWIN A. BEMIS, JR.
LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.
A STUDY OF THE DIFFUSION AND MIXING OF TRITIUM GAS IN AIR.
LOS ALAMOS, N. MEX., UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LA-2671. 35 P., APR. 1962, 13 FIGS., 3 TABS., 9 REFS.
U.S. AEC CONTRACT NO. W-7405-ENG-36.

THE MECHANISM BY WHICH SMALL AMOUNTS OF TRITIUM GAS MIX WITH AIR WAS INVESTIGATED. INTERPRETATIONS WERE APPLIED TO THE DIFFUSION PROCESS FOR A SMALL-VOLUME SOURCES IN A HOMOGENEOUS AND STATIONARY ATMOSPHERE. RESULTS FROM STRICT DIFFUSION CONSIDERATIONS INDICATE THAT THE CONCENTRATION VELOCITY OF TRITIUM IN AIR HAS A PRACTICAL MAXIMUM VALUE OF LESS THAN 0.4 CM/SEC. HOWEVER, EFFECTIVE CONCENTRATION VELOCITIES DEPEND ALMOST ENTIRELY ON THE AIR MOTION IN THE ROOM AND ARE AS MUCH AS THREE ORDERS OF MAGNITUDE GREATER THAN THOSE INDICATED BY DIFFUSION THEORY. (FROM AUTH. ABSTR.) ATMOSPHERE (TERRESTRIAL), RADIONUCLIDES, H-3, DIFFUSION, MIXING, TRITIUM GAS, GASES, EQUATIONS, NUCLEAR REACTORS, INSTRUMENTS, MONITORING

06901

W. D. ARNOLD AND D. J. CROUSE
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1969.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-2756. 13 P., OCT. 1969, 3 FIGS., 1 TAB., 4 REFS.

WHEN GREEN RIVER OIL SHALE WAS HEATED WITH TRITIATED WATER VAPOR AT 85 DEGREES C AND AT PRESSURES RANGING FROM 50 TO 860 PSIG, THE TRITIUM CONTAMINATION OF THE OIL SUBSEQUENTLY RETORTED FROM THE SHALE INCREASED WITH INCREASE IN SHALE EXPOSURE PRESSURE. IN TESTS AT 560 PSIG, THE TRITIUM CONTENT OF OIL INCREASED BY 35% AS THE SHALE EXPOSURE TIME WAS INCREASED FROM 1 TO 26 DAYS. ABOUT HALF THE TRITIUM WAS REMOVED FROM A SAMPLE OF CONTAMINATED SHALE BY HEATING IT FOR 24 HRS AT 110 DEGREES C UNDER REDUCED PRESSURE. IN SMALL-SCALE TESTS SIMULATING OPERATIONS AT A NATURAL GAS PROCESSING PLANT, NO SIGNIFICANT EXCHANGE BETWEEN TRITIATED HYDROGEN AND KEROSENE WAS DETECTED AFTER 26 DAYS EXPOSURE AT ROOM TEMPERATURE AND 900 PSIG. (FROM AUTH. ABSTR.) H-3, RADIONUCLIDES, TRITIATED WATER, SHALE, DISTRIBUTION, CANE, GASES, THERMAL ANALYSIS, NATURAL GAS, HYDROGEN, ANALYSIS, OIL SHALE, ROCK, SEDIMENTARY ROCK, PLOWSHARE PROGRAM, SB-125, COPPER ORE PROCESSING, NUCLEAR EXPLOSIONS, EXPLOSIONS, ENVIRONMENTAL RADIATION, RADIATION, KEROSENE, KR-85

06902

L. STEPHEN LAU AND TSEGAYE HAILU
UNIVERSITY OF HAWAII, WATER RESOURCES RESEARCH CENTER, HONOLULU, HI.
TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN WATERS- INSTRUMENTATION.
HONOLULU, HI., UNIVERSITY OF HAWAII, WATER RESOURCES RESEARCH CENTER, TECHNICAL REPORT NO. 22.
40 P., NOV. 1968, 13 FIGS., 2 TABS., 40 REFS.

ALL KNOWN TRITIUM MEASUREMENTS MADE OF HAWAII RAINWATER, OCEAN WATER, SURFACE WATER, AND GROUND WATER ARE SUMMARIZED. OCEAN WATER YIELDED 10 TO 20 T.U. IN 1963-65. TRITIUM IN RAINWATER ROSE

FROM A LOW 6 T.U. IN 1961 TO A 1963 SUMMER PEAK OF 373 T.U., EXHIBITED STRONG SEASONAL FLUCTUATIONS, AND DECLINED TO 43 T.U. IN MID-1965. GROUNDWATER SAMPLES COLLECTED IN LATE 1966 ON OAHU RANGED BETWEEN 24 TO 0.5 T.U. GROUND-WATER SAMPLES WITH HIGH TRITIUM COUNT WERE TAKEN FROM HIGH-LEVEL WATER; THOSE WITH CONSIDERABLY LESS TRITIUM WERE BASAL WATER AND THE ONE WITH THE LEAST TRITIUM WAS BASAL WATER FARTHEST DOWN GRADIENT AND BELOW A 1100-FOOT CAPROCK IN EWA BEACH, OAHU. THE FACILITIES OF THE TRITIUM LABORATORY AT THE UNIVERSITY OF HAWAII ARE DESCRIBED. THE PRESENT BASIC UNIT FOR TRITIUM ANALYSIS UTILIZES LIQUID SCINTILLATION WITH ELECTROLYSIS FOR ENRICHMENT OF LOW-LEVEL SAMPLES. (AUTHS.)

H-3, RADIONUCLIDES, ENVIRONMENTS, RAINWATER, SEA WATER, SURFACE WATERS, GROUND WATER, HAWAII, WATER, MONITORING, HYDROLOGY, EQUIPMENT, AQUIFERS

06923

JOSEPH R. RUBINI, EUGENE P. CRONKITE, VICTOR P. BOND, AND T. M. FLIEDNER
BROOKHAVEN NATIONAL LABORATORY, MEDICAL RESEARCH CENTER, UPTON, N.Y.
THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN.

JOURNAL OF CLINICAL INVESTIGATION, VOL. 39, PP 909-918, 1960, 7 FIGS., 1 TAB., 25 REFS.

THE METABOLIC STUDIES REPORTED INDICATE THAT THE EFFECTIVE AVAILABILITY TIME FOR INTRAVENOUSLY ADMINISTERED H-3-THYMIDINE IS A MATTER OF MINUTES. THE METABOLIC FATE OF THIS TRITIUM-LABELLED COMPOUND WAS EXAMINED BY ANALYSES OF SERIAL SPECIMENS OF PLASMA, STOOL AND URINE AS WELL AS BY EVALUATION OF AUTORADIOGRAMS OF TISSUES. THESE STUDIES REVEALED THAT CATABOLISM OF SOME H-3-THYMIDINE TO TRITIATED WATER AS WELL AS TO NONVOLATILE TRITIATED COMPOUNDS OCCURS. AT LEAST 50% OF INJECTED H-3-THYMIDINE WAS RETAINED IN VIVO AND WAS PRESUMABLY INCORPORATED INTO NEW DNA OF PROLIFERATING CELLS.

TRITIATED THYMIDINE, METABOLISM, MAN, TRITIATED WATER, DNA, H-3, RADIONUCLIDES, EXCRETION, URINE, FECES, BIOLOGICAL HALF-LIFE, BONE MARROW, HALF-LIFE

06924

ERNEST A. PINSON
UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.
WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES.
PHYSIOLOGICAL REVIEWS, VOL. 32(2), PP. 123-134, 1952, 76 REFS.

THE PHYSICAL PROPERTIES OF DEUTERIUM AND TRITIUM IN RELATION TO CONCENTRATIONS OF THESE ISOTOPES WHICH MAY BE TOXIC TO BIOLOGICAL ORGANISMS AND WHICH DETERMINE THE SENSITIVITY OF METHODS OF ASSAY ARE INDICATED. THE CONCEPT OF THE USE OF ISOTOPES AS RELATED TO THE USE OF DEUTERIUM AND TRITIUM IS EXAMINED IN THE LIGHT OF BIOLOGICAL STUDIES ALREADY MADE WITH THESE HEAVY ISOTOPES OF HYDROGEN.

WHERE IT HAS BEEN POSSIBLE TO COMPARE THE RATES OF DIFFUSION OF HDO OR HTO WITH H₂O ACROSS VARIOUS BARRIERS NO GREAT DIFFERENCE HAS BEEN FOUND IN THE RATES WITH WHICH THESE MOLECULES MOVE ACROSS SUCH BARRIERS. STUDIES OF WATER EXCHANGE BETWEEN THE ANIMAL ORGANISM AND THE EXTERNAL ENVIRONMENT USING HDO AND HTO AS TRACERS SHOW THAT- A) THE EXCHANGE OF WATER BETWEEN THE INSPIRED AIR AND BODY FLUID IN THE LUNGS IS NEARLY 100%, B) THE AMOUNT OF WATER TRANSFERRED FROM THE GASTROINTESTINAL TRACT TO THE BLOOD STREAM FOLLOWING INGESTION IS LINEAR WITH TIME, C) A PERMEABLE BARRIER EXISTS IN THE OUTER SKIN THROUGH WHICH WATER VAPOR MAY DIFFUSE IN EITHER DIRECTION, AND D), WITHIN THE LIMITS OF MEASURING SENSITIVITY, ALL FLUIDS LOST FROM THE BODY CONTAIN THE SAME ISOTOPIC CONCENTRATION OF HDO OR HTO AS THE PREVAILING IN THE WATER OF THE BLOOD AT THE TIME OF LOSS. (FROM AUTH. SUM.) H-3, DEUTERIUM, RADIONUCLIDES, TRACERS, WATER EXCHANGE, BARRIERS, WATER BALANCE, LUNGS, SKIN, BODY WATER, GASTROINTESTINAL TRACT, PHYSICAL PROPERTIES, PHYSIOLOGY

06925

V. N. LAVRECHIK
BROOKHAVEN NATIONAL LABORATORY, UPTON, N.Y.
GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS.
UPTON, N.Y., BROOKHAVEN NATIONAL LABORATORY, BNL-TR-42. 40 P., 1965, 14 FIGS., 2 TABS. (TRANSL. FROM CHAPT. 3 OF GLOBAL NOYE VYPADENIYE PRODUKTOV YADERNYKH VZRYNOV, ATOMIZDAT, MOSCOW, 44 P., 1965)

A REVIEW OF SAMPLE COLLECTIONS AND DETERMINATIONS OF RADIOACTIVE FALLOUT ON THE EARTH, IN THE ATMOSPHERE, AND IN THE STRATOSPHERE. SPECIAL ATTENTION IS GIVEN TO THE DETERMINATION OF C-14 AND TRITIUM.

FALLOUT, H-3, C-14, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), RADIATION, STRATOSPHERE, NUCLEAR EXPLOSIONS, EXPLOSIONS, SAMPLING, BETA RADIATION, GAMMA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, AUTORADIOGRAPHY

06926

BURDON C. MUSGRAVE
UNIVERSITY OF ARKANSAS, FAYETTEVILLE, ARK.
PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965- OCTOBER 31, 1966.
FAYETTEVILLE, ARK., UNIVERSITY OF ARKANSAS, U.S. AEC REPORT ORO-3192-6. 21 P., 1966, 4 FIGS., 4 TABS., 15 REFS.
U.S. AEC CONTRACT NO. AT(40-1)-3192.

LIQUID OXYGEN SAMPLES FROM NEOSHO, MISSOURI WERE PROCESSED FOR METHANE, ETHANE, AND KRYPTON; THE T/H RATIOS AND KRYPTON-85 LEVELS RESPECTIVELY WERE MEASURED. A SYSTEM FOR RECOVERY OF TRACE GASES BY DIRECT PROCESSING OF LARGE VOLUMES OF AIR WAS DEVELOPED. SOME INITIAL RESULTS ARE AVAILABLE ON THIS SYSTEM. RESULTS ARE REPORTED ON THE PROBLEM OF THE PHOTOCHEMICAL LIFETIME OF METHANE AND THE TRITIUM CONTENT OF FORMALDEHYDE IN THE ATMOSPHERE. A NUMBER OF ATMOSPHERE HYDROGEN SAMPLES ARE REPORTED AND A CORRELATION OF THE T/H TO D/H RATIOS WAS ATTEMPTED.
ATMOSPHERE (TERRESTRIAL), LIQUID OXYGEN, METHANE, ETHANE, KRYPTON, KR-85, RADIONUCLIDES, H-3, FORMALDEHYDE, PHOTOCHEMICAL LIFETIME, GASES, HYDROGEN, T/H RATIO, D/H RATIO

06927

C. F. SMITH
UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.
PRE-OPERATIONAL REPORT, PROJECT GASBUGGY- GAS QUALITY ANALYSIS AND EVALUATION PROGRAM.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCID-15136. 20 P., 1967, 2 TABS., 10 REFS.

AN INTRODUCTION TO THE PROBLEM OF GAS CONTAMINATION IS PRESENTED, AND THE EXPECTED CHEMICAL PHENOMENOLOGY IS BRIEFLY DISCUSSED. TRITIUM AND KRYPTON-85 ARE THE PRIMARY PROBLEM NUCLEI. THE ROLE OF GAS ANALYSIS IN EVALUATING SUCH PROCEDURES AS FLUSHING AND DILUTION DESIGNED TO REDUCE THE CONTAMINATION LEVEL IS INCLUDED.
NATURAL GAS, CONTAMINATION, H-3, KR-85, RADIONUCLIDES, GAS ANALYSIS, FLUSHING, RADIOCHEMICAL ANALYSIS, ANALYSIS, CHEMICAL ANALYSIS, DILUTION, PROJECT GASBUGGY, PLOWSHARE PROGRAM

06928

OTTO L. STEIN
UNIVERSITY OF MASSACHUSETTS, AMHERST, MASS.
PROGRESS REPORT (ON THE USE OF TRITIATED THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN THE STUDY OF LATERAL ROOT INITIATION), 1965-1966.
AMHERST, MASS., UNIVERSITY OF MASSACHUSETTS, U.S. AEC REPORT NYO-3561-3. 14 P., 1967, 6 FIGS., 1 REP.
U.S. AEC CONTRACT NO. AT(30-1)-3561.

THE EFFECT OF CONCENTRATION OF ISOTOPE/CORN ROOT AS OPPOSED TO CONCENTRATION/VOLUME OF SOLUTION WAS DETERMINED. AT LOW CONCENTRATIONS OF THE ISOTOPE THE AMOUNT OF TISSUE TREATED BECOMES IMPORTANT. TRITIATED WATER AT CA. 25 MILLICURIES/ROOT WILL INHIBIT LATERAL ROOTS OVER THE ENTIRE TREATED REGION. IN THAT RESPECT THE RESULTS RESEMBLE EFFECTS OF X-RAYS. TRITIATED THYMIDINE AT 50 MICRO C/ROOT WILL INHIBIT LATERAL FORMATION IN THE DIFFERENTIATING PERICYCLE. BOTH SCORING OF LABELLED NUCLEI AND SCINTILLATION COUNTING INDICATE THAT THIS TISSUE INCORPORATES H³T MUCH MORE ACTIVELY THAN THE SURROUNDING PORTIONS OF THE ROOT. CORN ROOTS IN CULTURE ARE MUCH MORE SENSITIVE TO H³T THAN INTACT SEEDLINGS. (AUTH. SUM.)

IRRADIATION, GROWTH, DOSE RATES, CORN, FLOWERING PLANTS

06929

A. NELSON DINGLE AND DONALD F. GATZ
UNIVERSITY OF MICHIGAN, ANN ARBOR, MICH.
RAIN SCAVENGING STUDIES. PROGRESS REPORT NO. 3.
ANN ARBOR, MICH., UNIVERSITY OF MICHIGAN, DEPT. OF METEOROLOGY AND OCEANOGRAPHY, U.S. AEC REPORT
COO-1407-15. 20 P., 1967, 2 TABS., 19 REFS.
U.S. AEC CONTRACT NO. AT(11-1)-1407.

DURING THIS REPORTING PERIOD EFFORT WAS DIRECTED TOWARD THE DEVELOPMENT OF AN EFFICIENT DATA-RECORDING AND DATA-REDUCTION SYSTEM FOR DATA COLLECTED AT THEIR CHICKASHAW, OKLA. STATION. A SECOND DEVELOPMENTAL EFFORT DEMANDING OF MUCH TIME WAS THE LAUNCHING OF PILOT EXPERIMENTS IN THE USE OF CONTROLLED TRACERS FOR THE STUDY OF (A) SEVERE STORMS CIRCULATION SYSTEMS AND (B) THE PROCESSES OF RAIN SCAVENGING. DETAILS OF THE CHEMICAL AND RADIOCHEMICAL PROCEDURES FOR EVALUATION OF TRACER MATERIAL WERE ALSO WORKED OUT. (FROM AUTH. ABSTR.)
RAINFALL, PRECIPITATION (METEOROLOGICAL), DEUTERIUM, H-3, RADIATION, RADIONUCLIDES, RADIOCHEMICAL ANALYSIS, RADIOACTIVITY, BETA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, SCAVENGING, TRACERS, STORMS, CIRCULATION

06930

ROLAND BIBRON
CENTRE D ETUDES NUCLEAIRES, SACLAY, FRANCE
DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE.
[DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE.]
SACLAY, FRANCE, COMMISSARIAT A L'ENERGIE ATOMIQUE, CENTRE D ETUDES NUCLEAIRES, CEA-R-2629. 102 P., 1965, 58 FIGS., 25 TABS., 108 REFS. (PH.D. THESIS, UNIVERSITY OF PARIS)

THE TRITIUM RELEASED INTO THE ATMOSPHERE AS A RESULT OF THE EXPLOSION OF THERMONUCLEAR DEVICES IS A USEFUL RADIOACTIVE TRACER FOR THE STUDY OF CERTAIN GEOPHYSICAL PROBLEMS. THE LOW CONCENTRATIONS FOUND, HOWEVER, CALL FOR THE USE OF EXTREMELY SENSITIVE DETECTORS. TWO DETECTION METHODS USING LIQUID SCINTILLATORS ARE DESCRIBED. IN THE FIRST METHOD, THE SAMPLE IS INTRODUCED INTO THE SCINTILLATOR IN LIQUID FORM, AFTER PRIOR CONCENTRATION OF THE TRITIUM BY ELECTROLYSIS. IN THE SECOND METHOD, THE TRITIUM IS INCORPORATED INTO THE SCINTILLATOR SOLVENT MOLECULE BY CHEMICAL SYNTHESIS. THE VARIATIONS IN THE TRITIUM CONCENTRATION IN RAIN WATER AND OF THE FREE HYDROGEN IN THE AIR IN FRANCE ARE EXAMINED. A DISCUSSION IS THEN GIVEN OF THE SEASONAL VARIATIONS IN THE CASE OF RAIN WATER AND THESE ARE COMPARED TO THE VARIATIONS IN THE STRONTIUM-90 CONCENTRATIONS. (NSA 19, NO. 24700)
H-3, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), LIQUID SCINTILLATORS, EQUIPMENT, INSTRUMENTS, RAINWATER, WATER, HYDROGEN, GASES, SR-90, SEASONAL VARIATIONS, PERIODIC VARIATIONS

06931

E. I. DU PONT DE NEMOURS AND CO.
EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY-DECEMBER 1965.

AIKEN, S.C., E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER LABORATORY, DPST-66-30-1. 17 P., 1966, 4 FIGS., 5 TABS., 8 REFS.

THE RESULTS OF THE ENVIRONMENTAL MONITORING PROGRAM FOR THE ATMOSPHERE, VEGETATION AND FOOD, AND WATER ARE PRESENTED. THE QUANTITY OF RADIOACTIVE WASTE RELEASED BY THE SAVANNAH RIVER PLANT TO ITS ENVIRONS WAS, FOR THE MOST PART, TOO SMALL TO BE DISTINGUISHED FROM NATURAL BACKGROUND RADIATION OR WAS OBSCURED BY WORLDWIDE FALLOUT FROM NUCLEAR WEAPONS TESTING DURING PAST YEARS. BETA ACTIVITY IN AIR, WHICH SHOWED NO RELATIONSHIP WITH PLANT OPERATIONS, WAS ABOUT ONE-FIFTH OF THAT FOR THE SAME PERIOD OF 1964. RADIOACTIVE MATERIALS IN FISH FLESH CONTINUED TO BE FAR BELOW LEVELS CONSIDERED SIGNIFICANT FROM A HEALTH STANDPOINT. THE AVERAGE CONCENTRATION OF RADIONUCLIDES IN RIVER WATER DID NOT EXCEED 4.1% OF THE MAXIMUM PERMISSIBLE CONCENTRATIONS. (AUTH. SUM.)
ENVIRONMENTAL MONITORING, ATMOSPHERE (TERRESTRIAL), VEGETATION, FOODS, WATER, MILK, RADIOACTIVE WASTES, WASTES, CONTAMINATION, RADIATION, BETA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, FISH, RIVERS, RADIONUCLIDES, SAVANNAH RIVER, SAVANNAH RIVER PLANT, ALGAE, H-3, SR-90 BE-7, CS-137, CE-144, RU-106, MN-54, ZR-NB-95, I-131, CO-60, CR-51, NP-239, RU-103, SR-89

06932

LOUIS GUIZOUARN
CENTRE D ETUDES NUCLEAIRES, SACLAY, FRANCE
PROPRIETES PHYSIQUES MOLECULAIRES DES ISOTOPES DE L'HYDROGENE ET DE LEURS COMBINAISONS ISOTOPIQUES; ETUDE BIBLIOGRAPHIQUE. [MOLECULAR AND PHYSICAL PROPERTIES OF THE HYDROGEN ISOTOPES AND OF THEIR ISOTOPIC COMBINATIONS; BIBLIOGRAPHICAL COMPILATION.]
SACLAY, FRANCE, COMMISSARIAT A L'ENERGIE ATOMIQUE, CENTRE D ETUDES NUCLEAIRES, CEA-BIB-87. 54 P., 1967, 33 FIGS., TABS., 38 REFS.

ALL THE EXPERIMENTAL DATA FOUND IN THE LITERATURE PUBLISHED DURING THE LAST 30 YRS CONCERNING THE PHYSICAL PROPERTIES OF DEUTERIUM AND TRITIUM IN LIQUID, SOLID, AND GASEOUS PHASES ARE PRESENTED (THROUGH APR 1965).

H-3, DEUTERIUM, RADIONUCLIDES, MOLECULAR PROPERTIES, BIBLIOGRAPHY, PHYSICAL PROPERTIES

06933

M. U. SHAIKH, D. G. JACOBS, AND P. L. PARKER
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED PROOUS MEDIA.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-1681. 114 P., 1967, 17 FIGS., 5 TABS., 56 REFS. (M.S. THESIS OF M.U. SHAIKH, VANDERBILT UNIVERSITY)

A THEORETICAL SOLUTION OF WATER FLOW WAS OBTAINED FOR AN INVERTED FIVE-SPOT SYSTEM WITH THE INJECTION WELL LOCATED AT THE CENTER OF A SQUARE SANDSTONE SLAB (6 FEET BY 6 FEET BY 6 INCHES) AND FOUR RELIEF WELLS AT THE CORNERS OF A CENTERED 3-FOOT SQUARE, ORIENTED IN THE SAME DIRECTION AS THE EDGES OF THE SLAB. THE COMPLEX POTENTIAL FUNCTION AND THE STREAM FUNCTION WAS DERIVED. AN EQUATION FOR THE VELOCITIES IN THE BLOCK WAS ALSO DEVELOPED. FROM THE DISTRIBUTION OF VELOCITIES, IN THE RADIAL FLOW AND DISTORTED FLOW, IT IS SHOWN THAT THE FLOW PATTERN IS UNAFFECTED BY WELLS UP TO A DISTANCE OF 8 INCHES FROM THE INJECTION WELL. EQUIPOTENTIAL CONTOURS, STREAMLINES, AND THE FLOW HISTORY OF THE SYSTEM WERE PLOTTED BY THE COMPUTER. FROM THE SORPTION DATA OBTAINED FROM LINEAR FLOW CORES, THE TIME REQUIRED FOR THE BREAKTHROUGH OF SR-89 AND CA-45 WAS FOUND TO BE 8.5 AND 6.2 TIMES THAT OF WATER, RESPECTIVELY. USING DIFFERENT LINEAR FLOW RATES, COEFFICIENTS OF DISPERSION WERE OBTAINED USING CORES OF SANDSTONE. BY COMBINING THE SOLUTION OF THE VELOCITY DISTRIBUTION ATTRIBUTED TO GEOMETRY WITH SOLUTION DISPERSION AT VARIOUS RATES OF LINEAR FLOW, NET SOLUTION BREAKTHROUGH CURVES WERE CONSTRUCTED. (FROM AUTHS. SUM.)

H-3, CA-45, SR-89, RADIONUCLIDES, WATER FLOW, RADIAL FLOW, VELOCITY, COMPLEX POTENTIAL FUNCTION, STREAM FUNCTION, DISTORTED FLOW, SORPTION, EQUIPOTENTIAL CONTOURS, STREAMLINES, COEFFICIENT OF DISPERSION, SOLUTION BREAK THROUGH, MOVEMENT, SANDSTONE, MODELS, MATHEMATICAL MODEL, EQUATIONS, DISPERSION EQUATIONS, COMPUTER MODELS

06934

FRED E. CROXTON AND SIMONE B. SCHWIND, COMPS.
U.S. ATOMIC ENERGY COMMISSION, OAK RIDGE, TENN.
TRITIUM (H-3); A BIBLIOGRAPHY OF UNCLASSIFIED LITERATURE.
OAK RIDGE, TENN., U.S. ATOMIC ENERGY COMMISSION, TECHNICAL INFORMATION OFFICE, TID-371. 35 P., 1950, 250 REFS.

THE REFERENCES LISTED ARE FOR THE PERIOD OF 1933-1950 AND COVER PRIMARILY THE NUCLEAR AND PHYSICAL PROPERTIES OF TRITIUM; A FEW ARTICLES ON ITS USE IN TRACER STUDIES ARE INCLUDED.
H-3, DEUTERIUM, RADIONUCLIDES, BIBLIOGRAPHY, NUCLEAR PROPERTIES, PHYSICAL PROPERTIES, TRACERS

SPENST M. HANSEN
LAWRENCE RADIATION LABORATORY
RESULTS FROM SEDAN POSTSHOT DRILLING.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50213. 39 P.,
1966, 8 FIGS., TABS., 5 REFS.

FOUR HOLES WERE DRILLED NEAR THE BOTTOM OF THE SEDAN NUCLEAR CRATER AT THE NEVADA TEST SITE. PUNCH CORE SAMPLES WERE RECOVERED PERIODICALLY DURING THE DRILLING. DENSITY LOGS, CALIPER LOGS, RADIATION LOGS, AND TEMPERATURE LOGS WERE RUN IN THE HOLES. RADIATION LOGS SHOW THE OCCURRENCE OF LOCAL ZONES OF HIGH AND LOW RADIOACTIVITY IN EACH OF THE DRILL HOLES. THE GENERAL TREND IS FOR GAMMA RADIOACTIVITY TO INCREASE WITH DEPTH TO A MAXIMUM ABOUT MIDWAY BETWEEN THE SHOT POINT AND THE TRUE CRATER SURFACE. TRITIUM ANALYSES WERE MADE OF PUNCH CORE SAMPLES FROM THE HOLE NEAREST THE CRATER CENTER. THE RESULTS INDICATE THAT THE BULK OF THE TRITIUM REMAINING WITHIN THE FALLBACK LIES ABOVE THE SHOT POINT WITH THE RELATIVE CONCENTRATION DECREASING RAPIDLY AND REGULARLY WITH GREATER DEPTH. (FROM AUTH. ABSTR.)
SEDAN, UNDERGROUND NUCLEAR EXPLOSIONS, NUCLEAR EXPLOSIONS, EXPLOSIONS, CRATERING, GAMMA RADIATION, IONIZING RADIATION, NUCLEAR RADIATION, RADIATION, H-3, RADIONUCLIDES, NEVADA TEST SITE, GEOPHYSICS, WATER, ALLUVIUM

06936
BOBY RAY LAYTON
UNIVERSITY OF ARKANSAS, PAYETTEVILLE, ARK.
TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER.
PAYETTEVILLE, ARK., UNIVERSITY OF ARKANSAS, TID-25285. 62 P., 1969, 8 FIGS., 2 TABS., 34 REFS.
(U.S. THESIS; ALSO APPEND. III TO TID-25284)

THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN DID NOT INCREASE DURING THE PERIOD OF 1963 TO 1966. SINCE NEITHER THE T/D NOR THE T/H RATIOS CHANGED, IT APPEARED THAT IF TRITIUM WAS BEING ADDED TO THE TROPOSPHERE, THE RATE OF ADDITION WAS EQUAL TO THE RATE OF DEPLETION FROM THE TROPOSPHERE. THERE IS SOME EVIDENCE THAT AN INJECTION OF TRITIUM INTO THE TROPOSPHERE DID TAKE PLACE IN 1965. THE EXPERIMENTAL DATA INDICATED THAT BOTH MOVEMENT OF AIR MASSES AND DIFFUSION WERE FACTORS IN THE OBSERVED VARIATION OF THE ISOTOPE RATIOS OF MOLECULAR HYDROGEN. DURING THE PERIOD WHEN THE TRITIUM WAS NOT WELL MIXED IN THE ATMOSPHERE, THERE WERE RECURRING PEAKS IN THE T/H RATIOS. THE RAIN WATER DATA INDICATED THAT THE CHINESE TEST OF MAY 9, 1966 WAS FOLLOWED BY AN INCREASE IN THE T/H RATIO OF RAIN WATER. THE ABSENCE OF AN INCREASE IN THE T/H RATIO OF ATMOSPHERIC HYDROGEN AFTER THE CHINESE TEST SUGGESTED THAT ALL THE TRITIUM PRODUCED BY THE NUCLEAR BOMB WAS EITHER OXIDIZED OR INJECTED INTO THE STRATOSPHERE. (FROM AUTH. SUM.)
H-3, DEUTERIUM, RADIONUCLIDES, HYDROGEN, GASES, WATER, RAINWATER, ATMOSPHERE (TERRESTRIAL), T/H RATIO, T/D RATIO, TROPOSPHERE, DIFFUSION, NUCLEAR TESTING, ATMOSPHERIC NUCLEAR TESTING

06937
NUCLEAR FUEL SERVICES, INC.
WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY.
WEST VALLEY, N.Y., NUCLEAR FUEL SERVICES, DOCKET-50201-27. 112 P., 1968, TABS.
INCLUDES MEASUREMENTS OF TOTAL ALPHA, BETA, AND GAMMA ACTIVITIES IN SOILS, PLANTS, MILK, WATER AND SEDIMENTS. THE SR-90 CONTENT IN MILK AND TRITIUM CONTENT IN WATER WERE ALSO MEASURED. DATA ARE GIVEN IN TABLES.
H-3, SR-90, RADIONUCLIDES, ALPHA RADIATION, BETA RADIATION, RADIATION, IONIZING RADIATION, GAMMA RADIATION, NUCLEAR RADIATION, SOILS, PLANTS, MILK, SEDIMENTS, WATER, FOODS, DAIRY PRODUCTS, ENVIRONMENTAL MONITORING

06938
KARL Z. MORGAN
OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
RADIATION HAZARDS ASSOCIATED WITH TRITIUM.
IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 1-3, 1964.
ALTHOUGH H-3 IS NOT CONSIDERED ONE OF THE MORE DANGEROUS PRODUCTS RESULTING FROM REACTOR ACCIDENTS, IT DOES PRESENT SOME DANGERS. THE REASONS THAT H-3 SHOULD BE HANDLED WITH CAUTION ARE SUMMARIZED.
H-3, FE-55, NI-59, RADIONUCLIDES, REACTORS, AIR CONTAMINATION, RADIATION, MAXIMUM PERMISSIBLE CONCENTRATION, TRITIATED WATER, WATER, RADIOLOGICAL HAZARDS

06939
J. ROULIN
CENTRE D ETUDES ET DE RECHERCHES ATOMIQUES MILITAIRES, PORT D'AUBERVILLIERS (SEINE), FRANCE
CONTAMINATION PAR LE TRITIUM A PARTIR DE L'ATMOSPHERE. (ATMOSPHERIC TRITIUM CONTAMINATION.)
IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 6-9, 1964, 17 REFS.
THE POSSIBLE SOURCES OF ATMOSPHERIC TRITIUM (COSMIC RADIATION, EXTRATERRESTIAL TRITIUM, THERMONUCLEAR EXPLOSIONS, AND REACTORS) ARE REVIEWED. THE RELATIVE IMPORTANCE OF THE VARIOUS CHEMICAL SPECIES INCORPORATING TRITIUM, SUCH AS, MOLECULAR TRITIATED HYDROGEN, TRITIATED WATER, TRITIATED METHANE ARE DISCUSSED AND SOME ASSUMPTIONS SUGGESTED.
H-3, RADIONUCLIDES, TRITIATED HYDROGEN, TRITIATED METHANE, GASES, TRITIATED WATER, WATER, COSMIC RADIATION, RADIATION, REACTORS, SOILS, CONTAMINATION, THERMONUCLEAR EXPLOSIONS, ATMOSPHERIC TRITIUM

06940
H. BRUNNER
EDGENHOESSISCHES INSTITUT FUER REAKTORFORSCHUNG, WUERENLINDEN, SWITZERLAND
SURVEY OF AVAILABLE DATA OF TRITIUM.
IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 10-16, 1964, 1 FIG., 44 REFS.
A SHORT SURVEY OF THE AVAILABLE PHYSICAL, CHEMICAL, AND BIOLOGICAL DATA ON TRITIUM. AMONG THE PHYSICAL PROPERTIES MENTIONED ARE TYPE OF DECAY, HALF-LIFE, ENERGY OF RADIATION, SHARE OF BETA-SPECTRUM, RANGE, BREMSSTRAHLUNG, ACTIVITY, AND PRODUCTION. CHEMICAL DATA INCLUDE ENERGY OF DISSOCIATION, IONIZATION, TRITIUM EXCHANGE, RADIOCHEMICAL EFFECTS, AND ISOTOPE EFFECT. WITH RESPECT TO RADIATION PROTECTION, METHOD OF INCORPORATION IN THE BODY FOR TRITIUM GAS AND TRITIATED WATER WERE GIVEN.
OTHER DATA INCLUDE MAXIMUM PERMISSIBLE BODY BURDEN, SINGLE INTAKE, MAXIMUM PERMISSIBLE CONCENTRATION, EXPOSURE TIME TO AIR CONTAINING TRITIATED WATER, SURFACE CONTAMINATION WITH TRITIATED WATER, AND TRITIATED SUBSTANCES, SUCH AS LABELED THYMIDINE.
H-3, RADIONUCLIDES, TRITIATED WATER, WATER, DECAY, RADIATION, GAS, HALF-LIFE, ENERGY, BREMSSTRAHLUNG, TRITIUM EXCHANGE, BIOLOGICAL DATA, TRITIUM GAS, MAXIMUM PERMISSIBLE CONCENTRATION, ISOTOPE EFFECT, IONIZATION ENERGY, DISSOCIATION ENERGY, MAN

06941
A. DOURY
CENTRE D ETUDES NUCLEAIRES DE SACLAY, FRANCE
RISQUES PRESENTES PAR LA DIFFUSION DE GRANDES QUANTITES DE TRITIUM DANS L'ATMOSPHERE. [DANGERS PRESENTED BY THE DIFFUSION OF LARGE QUANTITIES OF TRITIUM IN THE ATMOSPHERE.]
IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413, PP 17-26, 1964, 4 TABS., 8 REFS.
(ALSO CEA-N-489)

SOME OF THE AVAILABLE DATA CONCERNING THE AMOUNT OF NATURALLY OCCURRING TRITIUM AND THE PROCESSES ASSOCIATED WITH THE DIFFUSION OF HYDROGEN AND ITS ISOTOPES ARE BRIEFLY REVIEWED. THEORETICAL EVALUATIONS

ARE MADE OF THE POTENTIAL MAXIMUM CONCENTRATIONS IN THE UNUSUAL CONDITIONS RESULTING FROM THE ACCIDENTAL RELEASE OF LARGE AMOUNTS OF TRITIUM IN THE ATMOSPHERE. THE CASE OF CONTINUOUS RELEASES IS EQUALLY CONSIDERED. USING AN ASSUMPTION ON THE RATE OF ISOTOPIC EXCHANGE BETWEEN GASEOUS TRITIUM AND WATER VAPOUR AND TAKING INTO ACCOUNT EXTERNAL OR INTERNAL DOSES WHICH CAN BE RECEIVED DURING EXPOSURE TO A CONTAMINATED AREA, ORDERS OF MAGNITUDE OF THE MAXIMUM PERMISSIBLE QUANTITIES WHICH CAN BE DISCHARGED CONTINUOUSLY OR IN ONE TIME ARE GIVEN, WITHIN THE LIMITS OF THE INTERNATIONAL COMMISSION ON RADIATION PROTECTION (ICRP) RECOMMENDATIONS.

H-3, RADIONUCLIDES, NATURAL TRITIUM, HYDROGEN DIFFUSION, DIFFUSION, ISOTOPIC DIFFUSION, ISOTOPIC EXCHANGE, GASEOUS TRITIUM, WATER VAPOR, GASES, MAXIMUM PERMISSIBLE CONCENTRATION

06942

L. BRAMATI
ENTE NAZIONALE PER L'ENERGIA ELETTRICA, ROME, ITALY

PRODUCTION OF TRITIUM IN NUCLEAR REACTORS.

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1984. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-840413. PP 28-33, 1984, 2 FIGS., 3 TABS., 4 REFS.

NUCLEAR REACTOR PRODUCED TRITIUM STEMMING FROM THE ACTIVATION OF TRACES OF DEUTERIUM, LITHIUM, ETC. IS DISCUSSED. A BRIEF SURVEY OF THE MAIN TYPES OF REACTOR AND OF THE CORRELATE QUANTITIES OF TRITIUM FOLLOWS SOME THEORETICAL CONSIDERATION OF DIFFERENT SOURCES OF IT AND IT IS DEMONSTRATED THAT THE ONLY TYPE OF REACTOR WITH REAL PROBLEMS OF TRITIUM HAZARDS ARE THE GAS-GRAPHITE REACTORS, AND THE HEAVY WATER REACTORS. IN PARTICULAR, METHOD OF MEASUREMENT AND DATA ARE GIVEN FOR THE LATINA REACTOR.

H-3, RADIONUCLIDES, GAS-GRAPHITE REACTORS, HEAVY WATER REACTORS, LATINA REACTOR, NUCLEAR REACTORS, ACTIVATION, TRITIUM HAZARDS, WATER, HAZARDS, TRITIATED WATER

06943

C. B. HOLMQUIST

SWEDISH STATE POWER BOARD, STOCKHOLM, SWEDEN

HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS.

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1984. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-840413. PP 34-39, 1984, 1 FIG., 1 TAB., 17 REFS.

THE TRITIUM ACTIVITY INDUCED IN A HEAVY-WATER MODERATED AND COOLED POWER REACTOR PRESENTS AFTER A FEW YEARS OF OPERATION PROBLEMS OF CONSIDERABLE HYGIENIC SIGNIFICANCE, THAT INCREASE WITH THE OPERATION TIME OF THE REACTOR. THE ACTIVITY WILL BE AROUND 10 C/D/1 D(2) AFTER 10 YEARS OF OPERATION. UNLIKE THE FISSION PRODUCT ACTIVITY THAT IS CONTAINED WITHIN THE CLADDING OF THE FUEL ELEMENTS THIS ACTIVITY IS BY ITS VAPOUR PRESSURE (FROM D₂O) A CONSTANT HAZARD. THE INDUSTRIAL HYGIENE CONSEQUENCES OF THIS WHEN RUNNING A FULL-SIZE STATION WILL AFTER A FEW YEARS BE- THAT THE PERSONAL PROTECTION MUST INCLUDE A MOST SCRUPULOUS INDUSTRIAL HYGIENE SURVEYING OF THE INTERNAL UPTAKE AND AN EXTENSIVE USE OF PLASTIC SUITS. THAT THE LAYOUT OF THE STATION AND THE VENTILATION REQUIREMENTS WILL BE GREATLY INFLUENCED. THAT DECONTAMINATION PROCEDURES WILL BE COMPLICATED THROUGH THE RISK OF INTERNAL CONTAMINATION THROUGH LUNGS AND SKINS. THAT THE ENVIRONMENTAL SURVEY MUST INCLUDE AS A MAJOR ITEM THE TRITIUM FALLOUT AROUND THE STATION AND THE CONCENTRATION IN MILK. THAT EVEN MINOR MISHAPS IN OPERATION MAY INVOLVE A PRONOUNCED INTERNAL RISK. THAT THE DISCHARGE OF LIQUID EFFLUENT OF LOW LEVEL TRITIUM ACTIVITY TO A LAKE REQUIRES CAREFUL STUDY OF ITS CAPACITY TO ACT AS A RECIPIENT FOR TRITIUM SINCE ORDINARY WASTE TREATMENT FAILS IN REDUCING THIS ACTIVITY.

(AUTH.)

H-3, RADIONUCLIDES, TRITIUM OXIDE, MAN, FALLOUT, TRITIUM HAZARDS, RADIATION, HEAVY WATER REACTORS, REACTORS, HEAVY WATER, DEUTERIUM OXIDE, WATER, VAPOR PRESSURE

06944

S. O. W. BERGSTROM, L. DEVELL, AND G. GEBERT

AKTEBOLAGET ATOMENERGI, STORSVIK, SWEDEN

STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS.

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1984. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-840413. PP 40-52, 1984, 5 FIGS., 4 TABS., 5 REFS.

TRITIUM LEVELS IN PRESENT AND FUTURE SWEDISH REACTORS ARE GIVEN. GENERAL ASPECTS ON TRITIUM HAZARDS IN CONNECTION WITH THE OPERATION OF REACTORS (MAINLY HEAVY WATER REACTORS) ARE DISCUSSED. THE SIGNIFICANCE OF HEALTH CRITERIA FOR PERSONNEL AS WELL AS THE ENVIRONMENT, IS COMPARED WITH THE ECONOMIC RESTRICTION, WHICH HAVE TO BE APPLIED TO HEAVY WATER LEAK RATES. THE INFLUENCE OF TRITIUM AIR LEVELS UPON WORKING ROUTINES, LAYOUT AND SYSTEM DESIGN IS CONSIDERED. LABORATORY TESTS OF TRITIUM PERMEABILITY THROUGH VARIOUS POLYMER FILMS ARE BRIEFLY MENTIONED. RESULTS FROM FULL SCALE TESTS OF ONE-PIECE AND TWO-PIECE POLYVINYL CHLORIDE SUITS ARE DISCUSSED. A BUTYL RUBBER ONE-PIECE SUIT SPECIALLY DESIGNED FOR TRITIUM WORK IS PRESENTED. THE SORPTION OF TRITIATED WATER IN OXIDE FILMS OF STEEL AND IRON HAS BEEN INVESTIGATED AND SOME TYPICAL RESULTS ARE GIVEN. (AUTHS.)

H-3, RADIONUCLIDES, TRITIUM HAZARDS, HEAVY WATER REACTORS, REACTORS, PERMEABILITY, POLYVINYL CHLORIDE, POLYMER FILMS, TRITIATED WATER, WATER, MAN, CLOTHING, PERSONNEL

06945

G. SOUDAIN

CENTRE D'ETUDES NUCLEAIRES DE SACLAY, FRANCE

DETECTION ET MEASURE DE LA CONTAMINATION PAR LE TRITIUM DES GAZ ET VAPEURS. [DETECTION AND MEASUREMENT OF GASES AND VAPORS BY TRITIUM.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1984. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-840413. PP 53-61, 1984, 9 FIGS., 1 TAB.

A DEVICE STUDIED BY THE SERVICE DE CONTROLE DES RADIATIONS ET DE GENIE RADIOACTIF (SCRGR) OF THE FRENCH COMMISSARIAT A L'ENERGIE ATOMIQUE FOR THE SURVEY OF ATMOSPHERIC TRITIUM CONTENT AT THE MAXIMUM PERMISSIBLE CONCENTRATION LEVEL AND THE CALIBRATION METHOD DEVELOPED ARE DESCRIBED.

THE INSTRUMENT DESIGN PERMITS DISTINCTION BETWEEN THE HAZARDS DUE TO ELEMENTARY TRITIUM AND TRITIATED WATER. IN ADDITION, TRITIUM CAN BE DETECTED IN THE PRESENCE OF OTHER RADIOACTIVE GASES, SUCH AS AR-41.

H-3, AR-41, RADIONUCLIDES, TRITIATED WATER, WATER, MEASUREMENT, GASES, DETECTION

06946

P. PATIGNY

CENTRE D'ETUDES ET DE RECHERCHES ATOMIQUES MILITAIRES, PORT D'AUBERVILLIERS, (SEINE), FRANCE

DETECTION ET MEASURE DE LA CONTAMINATION DES GAZ ET VAPEURS. [DETECTION AND MEASUREMENT OF THE CONTAMINATION OF GASES AND VAPORS.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1984. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-840413. PP 62-66, 1984, 2 FIGS.

AN INSTRUMENT HAS BEEN DESIGNED FOR SAMPLING TRITIUM IN AN ATMOSPHERE HIGHLY CONTAMINATED BY FISSION PRODUCTS. THIS DEVICE TAKES ATMOSPHERIC AIR SAMPLES AND ENABLES THE OXIDATION OF TRITIATED MOLECULAR HYDROGEN, THE DESTRUCTION OF UNSTABLE METALLIC TRITIDES AND THE RECOVERY OF THE WHOLE TRITIATED WATER VAPOUR. THE FISSION PRODUCTS ARE ELIMINATED BY A FILTRATION SYSTEM. THE GASEOUS PRODUCTS ARE REMOVED BY VACUUM DISTILLATION AND CAN BE RETAINED IN TRAPS. (AUTH.)

H-3, RADIONUCLIDES, ATMOSPHERIC TRITIUM, TRITIATED COMPOUNDS, GASES, WATER, FISSION PRODUCTS, TRITIATED WATER, OXIDATION, METALLIC TRITIDES, DETECTION

F. BERTHOLD

LABORATORIUM PROF. DR. BERTHOLD, WILDBAD IN SCHWARZWALD, GERMANY
MESSGERÄT FÜR TRITIUM. [MEASUREMENT DEVICE FOR TRITIUM.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 67-69, 1964, 1 FIG.

DISCONTINUOUS MONITOR FOR TRITIUM IN AIR- SAMPLES ARE TAKEN IN THE SURVEYED AREA BY OPENING THE TAP OF A VACUATED GLASS AMPULLA WHICH BECOMES FILLED WITH AIR AT ATMOSPHERIC PRESSURE. A GAS FILLING PROPORTIONAL COUNTER IS FILLED BY A MIXTURE OF MORE THAN 50% OF THE AMPULLA GAS AND OF METHANE USING VACUUM. HIGH EFFICIENCY AND GOOD PLATEAU CHARACTERISTICS ARE OBTAINED FOR THE COUNTING.

THE COUNTER IS INSENSITIVE TO AIR MOISTURE. DEVICE FOR MEASUREMENT OF TRITIUM CONTAMINATION- A LABORATORY MODEL OF A DEVICE FOR THE MEASUREMENT OF ALPHA AND BETA SURFACES CONTAMINATION, ALLOWING TRITIUM DOSIMETRY, IS DESCRIBED. THIS DEVICE HAS BEEN DEVELOPED FROM AVAILABLE DETECTOR, DESIGNED FOR THE MEASUREMENT WITHOUT CONTACT OF TRITIUM AND OF OTHER RADIOACTIVE SOURCES. A PROPORTIONAL COUNTER, INCLUDING SEVERAL WIRES STRETCHED IN A PARALLEL DIRECTION TO THE SURFACE HAS BEEN USED TO TEST THE PRINCIPLE OF THE COUNTER DEVELOPPED WHICH INCLUDES ONLY A STRETCHED WIRE PARALLEL TO THE SURFACE. A HIGH EFFICIENCY COUNTING IS OBTAINED USING METHANE AS FILLING GAS. FOR TRITIUM MEASUREMENT, A WINDOWLESS COUNTER, PROVIDED WITH A CATHODIC GRID WHICH CAN BE PLACED ON THE SURFACE TO BE SCANNED, IS NECESSARY. (AUTH.)

H-3, RADIONUCLIDES, ATMOSPHERIC TRITIUM, PROPORTIONAL COUNTER, TRITIUM CONTAMINATION, RADIATION, TRITIUM DOSIMETRY, DETECTION, MEASUREMENT, COUNTERS

06948

H. KIEPER AND R. MAUSHART

KERNFORSCHUNGSZENTRUM, KARLSRUHE, GERMANY

KONTINUIERLICHE TRITIUM-ÜBBERWACHUNG IN LUFT UND WASSER. [CONTINUOUS TRITIUM MONITORING IN AIR AND WATER.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 83-86, 1964, 2 FIGS., 3 REFS.

THE DIFFICULTIES IN THE TRITIUM MONITORING DUE TO THE VERY WEAK ENERGY OF THE BETA RADIATION DETECTED ARE DISCUSSED, TAKING AS BASIS THE METHODS PRESENTLY USED. THIS CONCERNS THE MEASUREMENT TECHNIQUES AND THE METHODS DEVELOPED, OWING TO THE POSSIBLE PRESENCE OF TRITIUM IN THE GASEOUS HYDROGEN, WATER VAPOR AND OTHER COMPOUNDS MAINLY ORGANIC. IN MOST OF THE CASES, THE TRITIUM MEASUREMENTS ARE NOT SPECIFIC AND THE DISTINCTION BETWEEN TRITIUM AND THE OTHER RADIATION SOURCES IS NOT POSSIBLE.

GREAT VOLUME PROPORTIONAL COUNTERS, WORKING IN PULSES, WHICH ARE ASSOCIATED TO SHIELDING COUNTERS FOR THE DISCRIMINATION OF HIGHER ENERGY RADIATION ACCORDING TO THE SPATIAL ANTI-COINCIDENCE PRINCIPLE, ALLOW A SPECIFIC CONTINUOUS MONITORING OF HIGH SENSITIVITY FOR TRITIUM IN AIR AND IN WATER. DURING THE AIR SURVEY, AIR IS ADDED IN THE 1/3 RATIO TO THE CONTINUOUS FLOW OF METHANE USED AS COUNTING GAS. THE SENSITIVITY IS APPROX. OF 10 (MINUS 8) MICROCURIES/CM(3) OF AIR. DRY METHANE IS ENRICHED WITH WATER VAPOR FOR THE WATER SURVEY. THE SENSITIVITY IS APPROX. OF 1.10 (MINUS 4) MICROCURIES/CM(3). RESULTS ARE GIVEN OF THE FIRST EXPERIMENTS CARRIED OUT WITH SUCH DEVICES. (AUTHS.)

H-3, RADIONUCLIDES, MONITORING, DETECTION, BETA-RADIATION, HYDROGEN, RADIATION, WATER VAPOR, GASES, METHANE, PROPORTIONAL COUNTER

06949

P. CERRE AND E. MESTRE

CENTRE D ETUDES NUCLEAIRES DE SACLAY, FRANCE

L INTERVENTION ET LA DECONTAMINATION DU MATERIEL CONTAMINE AU TRITIUM. [INTERVENTION AND DECONTAMINATION OF MATERIAL CONTAMINATED WITH TRITIUM.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 91-97, 1964, 2 FIGS., 1 TAB.

MEASURES ADOPTED BY EMERGENCY TEAMS DURING WORK ON EQUIPMENT CONTAMINATED BY TRITIUM ARE OUTLINED.

THE PROTECTION OF PERSONNEL AND OF EQUIPMENT IS SO EXAMINED. FURTHERMORE, THE TECHNIQUES USED IN THE DECONTAMINATION OF EQUIPMENT ARE DESCRIBED AND EXAMPLES POINT OUT THE RESULTS OBTAINED BY APPLYING THESE TECHNIQUES. THE PROGRAM OF LABORATORY STUDIES TO BE UNDERTAKEN FOR THE IMPROVEMENT OF DECONTAMINATION FACTORS IS OUTLINED. (AUTHS.)

H-3, RADIONUCLIDES, INTERVENTION, DECONTAMINATION

06950

E. GOURSKE, R. BOULENGER, AND G. KOCH

CENTRE D ETUDE DE L ENERGIE NUCLEAIRE, MOL, BELGIUM

DETECTION DES CONTAMINATIONS DE SURFACE. [DETECTION OF SURFACE CONTAMINATIONS.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 98-102, 1964, 3 FIGS., 4 TABS.

THE LOW ENERGY OF TRITIUM BETA RADIATION REQUIRES THE INTRODUCTION OF SAMPLES IN THE SENSITIVE VOLUME OF THE DETECTOR. A WINDOWLESS GLASS FLOW PROPORTIONAL COUNTER, ALLOWING MEASUREMENTS A FEW SECONDS AFTER HAVING PLACED ON A PLAT AND EVEN ON AN INSULATING SURFACE, HAS BEEN DEVELOPED FOR THE DIRECT DETECTION OF CONTAMINATION. THE INDIRECT MEASUREMENT OF CONTAMINATION IS CARRIED OUT BY LIQUID SCINTILLATION ON WASHINGS. SOLVENTS UTILISABLE AT COMPONENTS OF THE SCINTILLATING MIXTURE ARE USED AS FAR AS POSSIBLE FOR THESE WASHINGS. THE TECHNIQUE IS APPLIED TO IRREGULAR SURFACES SUCH AS- EPIDERM AND VARIOUS OBJECTS.

H-3, RADIONUCLIDES, BETA-RADIATION, RADIATION, PROPORTIONAL COUNTER, COUNTERS, MEASUREMENT, SURFACE CONTAMINATION, CONTAMINATION, LIQUID SCINTILLATION COUNTING

06951

P. SLIZEWICZ

CENTRE D ETUDES NUCLEAIRES DE SACLAY, FRANCE

LE TRITIUM UTILISE COMME TRACEUR EN GEOPHYSIQUE. [TRITIUM USED AS A TRACER IN GEOPHYSICS.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 107-111, 1964, 21 REFS.

THE USE OF TRITIUM AS A TRACER IN THE STUDY OF GEOPHYSICAL PHENOMENA IS INVESTIGATED. METHODS OF TRITIUM DETECTION ARE FIRST DESCRIBED. SOME EXAMPLES OF THE POSSIBLE USES OF TRITIUM IN THE STUDY OF MARINE CURRENTS AND SURFACE AND GROUND WATER CIRCULATION ARE THEN GIVEN.

H-3, RADIONUCLIDES, TRACERS, GEOPHYSICS, MARINE CURRENTS, UNDERGROUND WATER CIRCULATION, SURFACE WATER CIRCULATION

06952

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CONCENTRATIONS MAXIMALES ADMISSIBLES POUR LE TRITIUM ET SES COMPOSES. [MAXIMUM PERMISSIBLE CONCENTRATION FOR TRITIUM AND ITS COMPOUNDS.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 117-123, 1964, 11 REFS.

RESULTS ARE REPORTED FROM STUDIES OF METHOD USED TO DETERMINE THE MAXIMUM PERMISSIBLE CONCENTRATIONS OF TRITIUM IN TRITIATED WATER, TRITIATED HYDROGEN, TRITIATED THYMIDINE, AND TRITIATED ORGANIC MOLECULES. TRITIATED WATER ENTERS THE BODY THROUGH THE DIGESTIVE TRACT, THE RESPIRATORY SYSTEM, AND THE SKIN.

THEIR IMPORTANCE IS RELATIVE. THE RBE COEFFICIENT IS 1.7. THE PERMISSIBLE BODY BURDEN IS 0.1 REM/WEK OR 1.2 MILLICURIES. THERE IS A RAPID BALANCING BETWEEN THE HUMAN BODY COMPARTMENTS, AND TRITIATED WATER HAS A BIOLOGICAL HALF LIFE OF CA. 12 DAYS. THERE IS ANABOLIC ABSORPTION OF TRITIUM

IN ORGANIC MOLECULES. DATA ON THE MAXIMUM PERMISSIBLE CONCENTRATION IN AIR AND WATER ARE GIVEN. FACTORS AFFECTING THE METABOLISM OF TRITIUM IN MAN ARE DISCUSSED. (NSA 20, NO. 23370)
H-3, RADIONUCLIDES, TRITIATED WATER, WATER, TRITIATED HYDROGEN, GAS, TRITIATED THYMIDINE, TRITIATED COMPOUNDS, MAN, DNA, METABOLISM

06953

A. GEY

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TRITIUM ET VAPEUR D EAU TRITIEE- DUREES LIMITEES D EXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE. [TRITIUM AND TRITIATED WATER VAPOR- TIME LIMITS FOR ACCIDENTAL EXPOSURE IN STABLE OR RENEWED ATMOSPHERE.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 124-127, 1964, 5 FIGS.

A THEORETICAL STUDY IS MADE OF THE ADMISSIBLE EXPOSURE TIME FOR A PERSON EXPOSED TO AN ATMOSPHERE HIGHLY CONTAMINATED IN TRITIUM, TAKING AS A BASIS AN INHALATED QUANTITY CORRESPONDING TO 5 REM/YEAR.

VARIOUS CASES ARE POSSIBLE ACCORDING TO- A) THE TYPE OF ACCIDENT- INSTANTANEOUS RELEASE OF Q (CURIES), OR CONTINUOUS AND CONSTANT LEAKAGE OF P (CURIES/HOUR); B) VENTILATION OR NO VENTILATION IN THE BUILDING; AND C) PRESENCE OF TRITIUM OR OXYDATED TRITIUM (TRITIATED WATER) FROM THE OUTSET OF ACCIDENT. IN THIS CASE, HIGHLY OPTIMISTIC ASSUMPTIONS ON THE OXYDATION AND ON THE TRANSFER INTO THE ORGANISM OF TRITIUM HAVE BEEN MADE FOR THE CALCULATIONS. THE APPROXIMATE RESULTS CAN BE OBTAINED BY SIMPLE FORMULAE. THE MODIFICATION OF SOME ASSUMPTIONS WOULD LED TO EASILY ACCOMPLISHED CORRECTIONS ON THE FORMULAE AND ON THE CURVES. (AUTH.)

H-3, RADIONUCLIDES, TRITIATED WATER VAPOR, GAS, RESPIRATORY INTAKE, OXIDATION, MAN, EXPOSURE TIME, VENTILATION

06954

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BEISPIELE FÜR DEN INTRAZELLULÄREN TRITIUM-STOFFWECHSEL. [EXAMPLES FOR THE INTRACELLULAR TRITIUM METABOLISM.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 129-131, 1964, 2 TABS., 2 REFS.

THE INJECTION OF TRITIATED 2-LACTIC ACID IN CELLS OF ASCITE TUMOURS PERMITS THE INTRANUCLEAR LABELLING OF DPNH BY TRITIUM. IT HAS BEEN SO POSSIBLE TO OBTAIN A COMPLETE BALANCE OF TRITIUM UPTAKE BY THE VARIOUS CELLULAR COMPONENTS. APPROX. 40% OF THE INJECTED ACTIVITY IS PRESENT IN THE WATER, BUT, SOME AMINO ACIDS ARE LABELLED TO A GREAT EXTENT. THE UPTAKE OF TRITIUM BY THE PROTEINS IS CONSEQUENTLY SIGNIFICANT. THE NUCLEIC ACIDS AND THE LIPIDS CONTAINED RESPECTIVELY 0.18% AND 0.065% OF THE INJECTED ACTIVITY. (AUTH.)

H-3, RADIONUCLIDES, INTRANUCLEAR LABELING, CELLS, AMINO ACIDS, LIPIDS, NUCLEIC ACIDS, METABOLISM, UPTAKE

06955

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MEASURE DE LA CONTAMINATION DU CORPS HUMAIN. [MEASUREMENT OF THE CONTAMINATION OF THE HUMAN BODY.]

IN- SEMINAIRE SUR LA PROTECTION CONTRE LES DANGERS DU TRITIUM. HELD IN LE VESINET, FRANCE, 16-18 APRIL 1964. HEALTH PHYSICS SOCIETY, FRENCH SECTION. LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, U.S. AEC REPORT CONF-640413. PP 132-136, 1964.

IMPOSSIBILITY OF MEASURING THE TRITIUM CONTAMINATION OF THE HUMAN BODY WITH EXTERNAL COUNTERS IS POINTED OUT. THE USE OF URINE ANALYSIS FOR THE MEASUREMENT OF THIS CONTAMINATION IS DISCUSSED.

THE ANALYSIS OF WATER IN THE URINE IS QUITE ADEQUATE IN THE ANALYSIS OF TRITIATED WATER OR TRITIATED HYDROGEN OXIDIZED INTO WATER. THE MEASUREMENT OF THE RADIOACTIVITY OF THE DRY RESIDUE IS USEFUL FOR SUBSTANCES THAT ARE NOT ABSORBED OR METABOLIZED, AND WITHOUT VAPOR TENSION. THE URINARY EXCRETION OF TRITIUM ABSORBED IN ORGANIC FORM WILL OCCUR PRINCIPALLY IN WATER. ANALYSIS OF OTHER SAMPLES SUCH AS BONE MARROW, BLOOD, OR SERUM PROTEINS IS ALSO CONSIDERED. USE OF RESULTS TO CALCULATE THE BODY BURDEN IS DISCUSSED. THE CRITICAL ORGAN AND THE MAXIMUM PERMISSIBLE CONCENTRATION LEVELS FOR THIS TYPE OF CONTAMINATION ARE DEFINED.

THYMIDINE, GAS, TRITIATED HYDROGEN, WATER, TRITIATED WATER, URINE, H-3, RADIONUCLIDES, MAN, CONTAMINATION

06956

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MEASUREMENT OF TRITIUM AT NATURAL LEVELS.

TOKAI, JAPAN ATOMIC ENERGY RESEARCH INSTITUTE, NSJ-TR-49. 10 P., 1966, 7 FIGS., 7 TABS., 14 REFS.

(TRANSL. FROM GENSHIYOKU KOGYO, VOL. 10(2), PP 65-68, 1964.)

THE TRITIUM CONTENT OF TAP WATER WAS MEASURED AT SEVERAL SITES IN JAPAN. THE CONCENTRATION OF TRITIUM IN TAP WATER WAS ABOUT 100 T.U. TRITIUM DETECTED IN RAIN WATER FROM KOCHI AND TOKYO RANGED FROM 28 TO 951 T.U. DURING THE PERIOD 1960 TO 1962. THE EFFECTS OF NUCLEAR BOMB TESTS ON TRITIUM LEVELS WAS CLEARLY DISCERNIBLE. TRITIUM LEVELS IN A DEEP WELL WERE FOUND TO BE APPROXIMATELY 1 T.U., INDICATING THE AGE OF THE WATER AS VERY OLD.

H-3, RADIONUCLIDES, CITY WATER, RAIN WATER, GROUND WATER, NUCLEAR TESTING, PRECIPITATION (METEOROLOGICAL), JAPAN

06957

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ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL, ENGLAND

THE CHEMICAL AND BIOLOGICAL ASPECTS OF TRITIUM; A BIBLIOGRAPHY OF REPORT AND PUBLISHED LITERATURE REFERENCES FROM 1950 TO DATE.

HARWELL, ENGLAND, ATOMIC ENERGY RESEARCH ESTABLISHMENT, AERB INF/DIB. 91. 7 P., 1953, 48 REFS.

AN UNANNOTATED LISTING.

H-3, RADIONUCLIDES, BIOLOGICAL PROPERTIES, CHEMICAL PROPERTIES, BIBLIOGRAPHY

06958

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TRITIUM [A BIBLIOGRAPHY].

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, RADIATION LABORATORY, UCRL-5069. 9 P., 1957, 97 REFS.

A SELECTIVE LIST OF BOOKS, PERIODICAL ARTICLES, AND TECHNICAL REPORTS RELATING TO TRITIUM WITH SPECIAL REFERENCE TO URINE ANALYSIS OF TRITIUM AND METABOLIC EXPERIMENTS.

H-3, RADIONUCLIDES, URINE ANALYSIS, METABOLISM, BIBLIOGRAPHY

06959

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A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS PROO SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER.

JOURNAL OF PHYSIOLOGY (LONDON), VOL. 200, PP 529-536, 1969, 1 FIG., 6 TABS., 17 REFS.

THE RATIO OF THE PERMEABILITY COEFFICIENTS FOR THE INFLUX OF DEUTERATED AND TRITIATED WATER HAD A MEAN VALUE OVER ALL THE EXPERIMENTS OF 0.9954 PLUS OR MINUS 0.0207, N = 27, INDICATING THAT NO ISOTOPE EFFECT WAS OBSERVABLE WITHIN THE LIMITS OF ACCURACY OF THE EXPERIMENTAL METHOD. THE THICKNESS OF THE UNSTIRRED LAYERS ASSOCIATED WITH THE PROO SKIN WAS MEASURED, AND, FROM THE DATA OBTAINED, VALUES OF THE TRUE PERMEABILITY COEFFICIENTS FOR EACH ISOTOPE WERE CALCULATED. (FROM AUTH. SUM.)

DEUTERATED WATER, TRITIATED WATER, WATER, ISOTOPE EFFECT, SKIN, TRANSFER, PHYSIOLOGY, MEMBRANES

06960

A. C. FOSKETT

ATOMIC ENERGY RESEARCH ESTABLISHMENT, HARWELL, ENGLAND
TRITIUM DETECTION AND MEASUREMENT; A BIBLIOGRAPHY.

HARWELL, ENGLAND, ATOMIC ENERGY RESEARCH ESTABLISHMENT, RESEARCH GROUP, LIBRARY INFORMATION OFFICE,
AERE-B18-132. 30 P., 1961, 164 REFS.

ANNOTATED REFERENCES COVER PUBLISHED LITERATURE AND REPORTS FROM 1943 THROUGH 1960 ON THE
DETERMINATION OF TRITIUM.

H-3, RADIONUCLIDES, MEASUREMENT, TRITIUM DETECTION, BIBLIOGRAPHY, ENVIRONMENTAL MONITORING, BIOLOGICAL
PROPERTIES

06961

C. B. TAYLOR, H. A. POLACH, AND T. A. RAFTER

TRITIUM MEASUREMENTS IN NATURE. A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR
SCIENCES, NEW ZEALAND.

LOWER HUTT, NEW ZEALAND, DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH, INSTITUTE OF NUCLEAR
SCIENCES, INS-R-24. 64 P., 1963, 6 FIGS., 9 TABS., 8 REFS.

DESCRIPTIONS ARE INCLUDED OF THE SAMPLING PROGRAM, THE ELECTROLYTICAL ENRICHMENT PROCESS,
THE PROCESS EMPLOYED FOR THE CONVERSION OF THE ENRICHED WATER TO HYDROGEN GAS, AND THE CONVERSION
OF THE ENRICHED WATER TO HYDROGEN GAS, AND THE COUNTING EXPERIMENTS CARRIED OUT IN LOW BACKGROUND
GRIGER COUNTERS USING ETHYLAMINE AS A QUENCHING GAS. THE RESULTS SHOW THAT TRITIUM FROM HYDROGEN
BOMB TESTING IS BUILDING UP IN THE SOUTHERN HEMISPHERE. TRITIUM LEVELS IN RAINS VARY CONSIDERABLY
FROM MONTH TO MONTH BUT DEFINITE EVIDENCE EXISTS FOR THE SPRING LEAK OBSERVED WITH OTHER FALLOUT
PRODUCTS. THE RESULTS SUPPORT OTHER EVIDENCE FOR A VARIATION IN TRITIUM FALLOUT WITH LATITUDE.

PRELIMINARY RESULTS PROVE THE VALUE OF THE TRITIUM METHOD IN CERTAIN HYDROLOGY PROBLEMS, BUT DIFFICULTIES
IN THE INTERPRETATION OF THE RESULTS FOR GEOTHERMAL DISCHARGE AND FOR OCEAN PROFILES HAVE BECOME
APPARENT.

H-3, RADIONUCLIDES, SAMPLING, ELECTROLYTIC ENRICHMENT, HYDROGEN, ETHYLAMINE, GASES, NUCLEAR EXPLOSIONS,
FALLOUT, OCEANS, PRECIPITATION (METEOROLOGICAL), SOUTHERN HEMISPHERE, RADIATION, RAINFALL, RIVERS,
LATITUDE, NUCLEAR TESTING, C-14, SEA WATER, SURFACE WATER, WATER, GROUND WATER, HYDROTHERMAL WATER,
SNOW

06962

P. BEGEMANN

MAX-PLANCK-INSTITUT FUER CHEMIE, MAINZ, GERMANY

DER NATUERLICHE TRITIUMHAUSHALT DER ERDE UND DIE FRAGE SEINER ZEITLICHEN VARIATION. (THE NATURAL
TRITIUM BALANCE OF THE EARTH AND THE QUESTION OF ITS CHRONOLOGICAL VARIATION).

CHIMIA, VOL. 16, PP. 1-26, 1962, 8 FIGS., 3 TABS., 53 REFS.

THE PRODUCTION OF H-3 IN THE ATMOSPHERE AND ITS DISTRIBUTION ON THE VARIOUS TERRESTRIAL HYDROGEN-CONTAINING
RESERVOIRS ARE DISCUSSED (TRANSL. AUTH.)

H-3, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), DISTRIBUTION, PERIODIC VARIATIONS, WATER

06963

ROLAND BIRON, GEORGETTE DELIBRIAS, AND JACQUES LABEYRIE

ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC
TRITIUM FROM THERMONUCLEAR EXPLOSIONS).

BULLETIN D'INFORMATION SCIENTIFIQUE ET TECHNIQUE (PARIS), NO. 54, PP. 11-15, 1961, 1 FIG., 3 TABS.,
16 REFS.

TRITIUM IN PRECIPITATION AND IN THE FREE HYDROGEN OF AIR IN FRANCE WAS MEASURED SINCE NOVEMBER
1956. THESE CONTENTS WERE, IN SPRING OF 1960, CA. 150 T.U. IN RAIN AND ABOUT 4×10^{15} T.U. IN
FREE HYDROGEN. RESULTS WERE OBTAINED BY LIQUID SCINTILLATION COUNTING WITH A PRELIMINARY ELECTROLYTIC
ENRICHMENT FOR THE SAMPLES OF LOWER TRITIUM CONTENTS. (NSA 16, NO. 4414)

H-3, RADIONUCLIDES, PRECIPITATION (METEOROLOGICAL), RAINFALL, ATMOSPHERIC HYDROGEN, ATMOSPHERIC
NUCLEAR TESTING, NUCLEAR TESTING, FRANCE

06964

R. M. BROWN AND W. E. GRUNNITT

R. M. BROWN, DEFENCE RESEARCH CHEMICAL LABORATORIES, OTTAWA, CANADA; W. E. GRUNNITT, ATOMIC ENERGY
OF CANADA LTD., CHALK RIVER, ONTARIO, CANADA

THE DETERMINATION OF TRITIUM IN NATURAL WATERS.

CANADIAN JOURNAL OF CHEMISTRY, VOL. 34, PP. 220-226, 1956, 2 FIGS., 4 TABS., 6 REFS.

RAIN AND SNOW SAMPLES COLLECTED AT OTTAWA OVER THE PERIOD 1951-1953 WERE FOUND TO RANGE FROM
17.1 TO 42.0 TRITIUM ATOMS PER 10^{18} HYDROGEN ATOMS, AVERAGING 26.6. TRITIUM VALUES FOR OTTAWA
RAIN-WATER FOR 1954 SHOWED MARKED EFFECTS OF THE THERMONUCLEAR TESTS IN THE PACIFIC IN THE SPRING
OF THAT YEAR, RISING 10 TO 100 FOLD DURING THE TEST PERIOD, THEN GRADUALLY RETURNING TO NORMAL,
DEMONSTRATING A HALF TIME FOR WASHOUT OF 35 DAYS. THE AVERAGE TRITIUM CONCENTRATION OF THE YEARS
RAIN IS ESTIMATED TO BE 260×10^{18} T/H. SURFACE SEA-WATER SAMPLES COLLECTED AT WIDELY SEPARATED
SITES IN THE LATTER HALF OF 1954 AND EARLY 1955 SHOWED TRITIUM CONCENTRATIONS IN THE RANGE
 $3.0-4.2 \times 10^{18}$ T/H, A VALUE WHICH CORRESPONDS WITH THE AMOUNT OF ARTIFICIALLY PRODUCED TRITIUM
OBSERVED IN OTTAWA RAIN. SUBSURFACE SAMPLES COLLECTED AT ONE STATION OFF THE COAST OF NOVA SCOTIA
IN MID-1955 SHOWED AN UNEXPECTED CONCENTRATION LEVEL AND PATTERN, HAVING A T/H VALUE OF $32.4 \times$
 10^{18} AT THE BOTTOM DEPTH OF 600 FT., DIMINISHING TO A VALUE OF 5.4×10^{18} AT THE SURFACE.
H-3, RADIONUCLIDES, RAINWATER, SEA WATER, WATER, SNOW, PRECIPITATION (METEOROLOGICAL), CONCENTRATION,
ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING, CANADA, WASHOUT

06965

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SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68(13), PP. 3771-3773, 1963, 3 FIGS., 9 REFS. (ALSO CONF-55-1)

THE SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN NEAR COLOGNE, GERMANY WAS MEASURED
DURING 1960 AND 1961. QUITE REGULAR SEASONAL VARIATIONS WERE FOUND, WITH MAY AND JUNE CONCENTRATIONS
AS MUCH AS TEN-FOLD HIGHER THAN NOVEMBER ONES. THE TRITIUM CONTENT OF RAIN APPEARED TO CORRELATE
BETTER WITH AIR THAN RAIN CONCENTRATIONS OF SR-90; AN EXPLANATION FOR THIS IS ADVANCED.

H-3, SR-90, RADIONUCLIDES, BOMB-TRITIUM, SEASONAL VARIATIONS, RAINWATER, GERMANY, CONCENTRATION,
RAINOUT, WASHOUT, ATMOSPHERE (TERRESTRIAL), PERIODIC VARIATIONS, PRECIPITATION (METEOROLOGICAL)

06966

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TRITIUM IN CRATER LAKE, OREGON.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75, PP. 5195-5207, 1970, 5 FIGS., 9 TABS., 20 REFS., (ALSO
IN U.S. ABC REPORT CU-2663-10, APPENDIX II)

U.S. ABC CONTRACT NO. AT(30-1)-2493.

VAPOR EXCHANGE HAS BEEN SUGGESTED AS THE DOMINANT MECHANISM FOR TRANSFER OF TRITIUM TO SMALL
CONTINENTAL LAKES. EVIDENCE IS PRESENTED TO SUGGEST THAT INPUT BY PRECIPITATION CAN EXPLAIN MOST
OF THE TRITIUM CONTENT OF CRATER LAKE. THE HYDROLOGY OF THIS LAKE MAKES IT IDEAL FOR STUDY BECAUSE
LESS THAN 1/2 OF 1% OF THE LAKE VOLUME IS LOST BY SEEPAGE EACH YEAR AND THERE IS NO SURFACE OUTFLOW.
VERY LITTLE TRITIUM CAN BE LOST FROM THE LAKE BY VAPOR EXCHANGE BECAUSE THE SURFACE CONCENTRATION
IS DILUTED BY VERTICAL MIXING. IF CRATER LAKE HAS RETAINED NEARLY ALL ITS INPUT TRITIUM, AND IF
LESS THAN HALF OF THIS INPUT WAS SUPPLIED BY VAPOR EXCHANGE AS DEDUCED FROM BUDGET CALCULATIONS,
DEEP LAKES WITH SMALL DRAINAGE BASINS CAN PROVIDE GOOD ESTIMATES OF THE TOTAL TRITIUM RAINOUT.

(METEOROLOGICAL), CONCENTRATION, RAINOUT, WASHOUT, VAPOR EXCHANGE, EXCHANGE, HYDROLOGY

06967

W. R. SCHELL, G. SAUZAY, AND B. R. PAYNE
INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, AUSTRIA
TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75(12), PP. 2251-2266, 1970, 6 FIGS., 3 TABS., 31 REFS.

THIS PAPER RELATES STRATOSPHERIC INJECTION FOR A WATER TRACER TO THE CONCENTRATION OF TRACER IN PRECIPITATION BY MEANS OF METEOROLOGICAL PARAMETERS. A SIMPLIFIED MODEL HAS BEEN DEVELOPED THAT RELATES INJECTION, EXCHANGE, EVAPORATION, CONDENSATION OF WATER VAPOR, AND TRITIUM TO METEOROLOGICAL PARAMETERS IN THE TROPOSPHERE. SINCE THE FORM OF THE MODEL IS GENERAL, TRITIUM, FALLOUT RADIONUCLIDE, DEUTERIUM, AND OXYGEN-18 DATA CAN BE USED AS TRACERS TO TEST THE BASIC ASSUMPTIONS AND TO EXAMINE THE PHYSICAL PROCESSES THAT ARE OCCURRING. THE MODEL WAS TESTED WITH METEOROLOGICAL DATA AND TRITIUM CONCENTRATIONS IN PRECIPITATION FROM THE IAEA/WMO WORLD NETWORK OF SAMPLING STATIONS. THE RESULTS OF THE INITIAL APPLICATION OF THE MODEL TO WESTERN EUROPE ARE PRESENTED.

H-3, DEUTERIUM, SR-90, O-18, RADIONUCLIDES, RADIOACTIVE TRACERS, TRACERS, MODELS, CONCENTRATION, RAINFALL, STRATOSPHERE, TROPOSPHERE, FALLOUT, HYDROLOGY, PRECIPITATION (METEOROLOGICAL), DISTRIBUTION, ATMOSPHERE (TERRESTRIAL), METEOROLOGY, EXCHANGE, MATHEMATICAL MODELS

06968

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UNIVERSITY OF MARYLAND, DEPT. OF PHYSICS AND ASTRONOMY, COLLEGE PARK, M.D. AND GODDARD SPACE FLIGHT CENTER, LABORATORY FOR SPACE SCIENCES, GREENBELT, M.D.
COSMIC-RAY PRODUCTION OF DEUTERIUM AND TRITIUM IN THE EARTH'S ATMOSPHERE.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 72(19), PP. 4663-4668, 1967, 2 FIGS., 1 TAB., 15 REFS.

A MEASUREMENT OF THE INTENSITIES OF COSMIC-RAY PRODUCED DEUTERIUM AND TRITIUM IN THE EARTH'S ATMOSPHERE HAS BEEN MADE USING DETECTORS FLOWN ABOARD TWO HIGH-ALTITUDE BALLOON FLIGHTS LAUNCHED FROM FORT CHURCHILL, MANITOBA, IN JUNE 1965. THE CALCULATED GLOBAL AVERAGE PRODUCTION RATE OF TRITIUM IN THE EARTH'S ATMOSPHERE IS 0.20 PLUS MINUS 0.05 TRITONS PER SECOND PRODUCED IN A 1-CM(2) COLUMN OF ATMOSPHERE. CALCULATIONS OF THE TRITIUM PRODUCTION RATE HAVE BEEN MADE BY OTHERS BASED ON MACHINE-MEASURED CROSS SECTIONS FOR THE PRODUCTION OF TRITIUM IN AIR BY PROTONS. THEIR RESULTS RANGE FROM 0.14 TO 0.37 TRITON/CM(2) SEC.; THE RESULTS OF THIS STUDY ARE WELL WITHIN THIS RANGE.

H-3, RADIONUCLIDES, COSMIC RADIATION, PRODUCTION RATE, ATMOSPHERE (TERRESTRIAL), DEUTERIUM, RADIATION

06969

M. E. SUESS
UNIVERSITY OF CALIFORNIA, SAN DIEGO, LA JOLLA, CALIF.
TRANSFER OF CARBON 14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75(12), PP. 2363-2364, 1970, 6 REFS.
NATIONAL SCIENCE FOUNDATION GRANTS GP-663 AND GP-4481, AND U.S. AEC CONTRACT NO. AT(11-1)-34-PA 183.

OBSERVATIONS OF BOMB-PRODUCED C-14 AND H-3 WERE MADE IN THE VARIOUS ENVIRONMENTAL RESERVOIRS. FROM THESE DATA AND FROM FUTURE OBSERVATIONS IT SHOULD BECOME POSSIBLE TO DEDUCE ACCURATE RATE CONSTANTS FOR TRANSFER FROM THE STRATOSPHERE TO THE TROPOSPHERE TO THE OCEAN. RATE CONSTANTS NOW GIVEN BY VARIOUS AUTHORS SHOW A WIDE SPREAD. THE AUTHOR PREFERENCES TO POSTPONE A DETAILED ANALYSIS UNTIL MORE OBSERVATIONAL DATA ARE AVAILABLE. H-3, C-14, RADIONUCLIDES, BOMB TRITIUM, STRATOSPHERE, TROPOSPHERE, TRANSFER, OCEANS, THERMOCLINE, RATE CONSTANTS, NUCLEAR EXPLOSIONS

06970

T. G. SCHOLZ, D. H. ENHALT, L. E. HEIDT, AND B. A. MARTELL
NATIONAL CENTER FOR ATMOSPHERIC RESEARCH, BOULDER, COLO.
WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75(15), PP. 3049-3054, 1970, 1 FIG., 3 TABS., 14 REFS.

CONCENTRATIONS OF MOLECULAR HYDROGEN, METHANE, AND WATER VAPOR WERE DETERMINED IN A 9.3-MOLE AIR SAMPLE, COLLECTED OVER AN ALTITUDE INTERVAL BETWEEN 44 AND 62 KM WITH A LIQUID HYDROGEN COOLED CONDENSER ON NASA FLIGHT SEPT. 4, 1968, OVER WHITE SANDS, N. MEX. THE RESULTS OF GAS CHROMATOGRAPHIC ANALYSIS FOR THE VOLUME CONCENTRATIONS OF MOLECULAR HYDROGEN AND METHANE WERE BELOW 0.05 PPMV. DEUTERIUM AND TRITIUM ANALYSES OF TWO WATER VAPOR FRACTIONS, RECOVERED FROM THE SAMPLER AT ROOM TEMPERATURE AND AT A HIGHER BACKOUT TEMPERATURE, INDICATED THE ADMIXTURE OF WATER DESORBED FROM THE INTERIOR SAMPLER SURFACE AND WERE USED TO DISTINGUISH BETWEEN HIGH-ALTITUDE WATER VAPOR AND THE DESORBED FRACTION. BY THIS MEANS, THE STRATOPAUSE WATER VAPOR CONCENTRATION WAS DETERMINED TO BE BETWEEN 3 AND 10 PPMV. THE CORRESPONDING TRITIUM CONCENTRATION IN THE WATER VAPOR NEAR THE STRATOPAUSE IS IN THE RANGE OF 80 TO 22 MILLION T.U. THE MEASURED SPECIFIC TRITIUM ACTIVITY OF THE STRATOSPHERIC AIR SAMPLE WAS 1035 DPM/KSQ AIR, TWO ORDERS OF MAGNITUDE HIGHER THAN THE ESTIMATED LEVEL OF NATURAL TRITIUM FROM COSMIC-RAY PRODUCTION.

H-3, RADIONUCLIDES, WATER VAPOR, METHANE, ATMOSPHERIC HYDROGEN, CONCENTRATION, STRATOSPHERE, DEUTERIUM, SPECIFIC ACTIVITIES

06971

KUNIHICO KIGOSHI AND KAZUO YONEDA
GAKUSHUIN UNIVERSITY, DEPT. OF CHEMISTRY, TOKYO, JAPAN
DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75(15), PP. 2961-2964, 1970, 6 FIGS., 5 REFS.

OBSERVED DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE COLLECTED IN TOKYO FROM MAY 10 TO JUNE 2, 1966, AND FROM JULY 12 TO AUG. 6, 1968, ARE PRESENTED. THE RELATION BETWEEN TRITIUM CONCENTRATION VARIATIONS AND THE MOVEMENT OF AIR MASSES OVER TOKYO IS DISCUSSED.

HIGH TRITIUM CONCENTRATIONS INDICATE THE ARRIVAL OF CONTINENTAL AIR MASSES FROM THE NORTH, AND LOW TRITIUM CONCENTRATIONS INDICATE THE PRESENCE OF OCEANIC AIR MASSES. THE TRITIUM CONCENTRATIONS IN TROPICAL LOW-PRESSURE AIR MASSES WERE NEARLY EQUAL TO THAT OF SURFACE OCEAN WATER. (AUTHS.)
H-3, RADIONUCLIDES, CONCENTRATION, ATMOSPHERIC TRITIUM, TRITIATED WATER, DIURNAL VARIATIONS, PERIODIC VARIATIONS, TRANSPORT, SEA WATER, WATER, METEOROLOGY, MIXING, AIR MASSES

06972

MAYNARD M. MILLER, JOEL S. LEVENTHAL, AND W. P. LIBBY
M. M. MILLER, MICHIGAN STATE UNIVERSITY, DEPT. OF GEOLOGY, EAST LANSING, MICH.; J. S. LEVENTHAL, W. P. LIBBY, UNIVERSITY OF CALIFORNIA, MICHIGAN, UNIVERSITY OF CALIFORNIA, DEPARTMENT OF CHEMISTRY, AND DEPT. OF CHEMISTRY, AND INSTITUTE OF GEOPHYSICS, LOS ANGELES, CALIF.
TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL ALTITUDES.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 70(16), PP. 3665-3668, 1965, 2 FIGS., 12 REFS.

THE TRITIUM CONTENT OF MT. EVEREST ICE (KHUMBU GLACIER) SHOWS THE ANNUAL ACCUMULATION TO AVERAGE SOME 1.7 M OF WATER EQUIVALENT. A LAYER STRUCTURE EXISTS IN THE GLACIER. THE LAYERS DOWN TO 20 M WERE SAMPLED (DYHRENFURTH EXPEDITION), AND THE TRITIUM PEAKS DUE TO THE NUCLEAR WEAPONS TEST SERIES CASTLE (1954), HARDTACK (1958), AND THE U.S.S.R. TESTS OF 1961 AND 1962 WERE IDENTIFIED.

THE SAMPLES WERE NOT TAKEN DEEP ENOUGH TO REACH THE PRETEST LEVEL FOR MEASUREMENT OF THE NATURAL TRITIUM CONTENT, WHICH WAS THE ORIGINAL INTENT. THE LAYERS OCCUR ABOUT 2/YR. (AUTHS.)
H-3, TRITIATED WATER, ICE, RADIONUCLIDES, SEASONAL VARIATIONS, SNOW, CONCENTRATION, DEPOSITION, MT. EVEREST, RADIOACTIVE AGE DETERMINATION

06973

TETSUO UCHIDA, H. S. RAHMATI, AND R. D. OSBRIEN
CORNELL UNIVERSITY, DEPT. OF ENTOMOLOGY, ITHACA, N.Y.
THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS.
JOURNAL OF ECONOMIC ENTOMOLOGY, VOL. 58, PP. 831-835, 1965, 6 FIGS., 1 TAB., 12 REFS.

THE TOXICITY, PENETRATION, AND METABOLISM OF DIMETHOATE IN THE HOUSE FLY, AMERICAN COCKROACH, COLORADO POTATO BEETLE, LARGE MILKWEED BUG, AND HOUSE CRICKET, WERE EXAMINED. THERE WERE LARGE

VARIATIONS IN ALL THESE FACTORS, INCLUDING A 5-FOLD VARIATION IN NET PRODUCTION OF OXYGEN ANALOG AND A 100-FOLD DIFFERENCE IN CHOLINESTERASE SENSITIVITY. THE HIGHLY SENSITIVE HOUSE FLY SHOWED PARTICULARLY RAPID PENETRATION, EXTENSIVE PRODUCTION OF OXYGEN ANALOG, AND SENSITIVE CHOLINESTERASE. HOWEVER, VARIATIONS IN THESE FACTORS COULD NOT EXPLAIN ALL THE VARIATIONS IN TOXICITY TO THE 5 SPECIES.

H-3, RADIONUCLIDES, TRITIATED DINETHOATE, TOXICITY, METABOLISM, INSECTS, ABSORPTION, TRITIATED COMPOUNDS

06974

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UNIVERSITY OF CALIFORNIA, INSTITUTE OF GEOPHYSICS AND DEPT. OF CHEMISTRY, LOS ANGELES, CALIF.
TRITIUM FALLOUT IN THE PACIFIC UNITED STATES.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75, PP. 7628-7633, 1970, 2 FIGS., 9 TABS., 12 REFS.
U.S. AIR FORCE OFFICE OF SCIENTIFIC RESEARCH, AFOSR-16 1255-67.

TRITIUM HAS BEEN MEASURED SINCE THE 1961-1962 NUCLEAR TESTS TO DETERMINE FALLOUT PATTERNS. CRATER LAKE TRITIUM DATA ARE USED FOR A MODEL OF MIXING AND FALLOUT. OCEAN-ATMOSPHERE-CONTINENT EFFECTS OF STRATOSPHERE FALLOUT AND DILUTION BY OCEAN WATER SHOW CONTINENTAL AND LATITUDINAL VARIATION. H-3, RADIONUCLIDES, FALLOUT, PACIFIC OCEAN, OCEANS, CRATER LAKE, LAKES, DILUTION, MIXING, COASTS, PACIFIC COASTS, ALASKA, MONITORING

06975

E. A. MARTELL

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH, BOULDER, COLO.

ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68(13), PP. 3759-3769, 1963, 4 FIGS., 2 TABS., 48 REFS.

CONSIDERATION OF THE BOMB-PRODUCED TRITIUM INVENTORY AND FEATURES OF THE BUDGET AND DISTRIBUTION OF TRITIUM IN ATMOSPHERIC WATER VAPOR, HYDROGEN, AND METHANE PROVIDES A BASIS FOR REJECTING PREVIOUS EXPLANATIONS FOR THE INCORPORATION OF ARTIFICIAL H-3 INTO ATMOSPHERIC METHANE. IT IS CONCLUDED THAT TRITIATED HYDROGEN IS PRODUCED IN THERMONUCLEAR CLOUDS BY RADIATIVE DISSOCIATION OF WATER UNDER OXIDIZING CONDITIONS. THE OCCURRENCE OF TRITIATED METHANE IS EXPLAINED BY TROPOSPHERIC EXCHANGE OF METHANE WITH TRITIATED HYDROGEN WHICH HAS MIXED DOWNWARD FROM THE STRATOSPHERE. CHEMICAL AND ENERGY CRITERIA FOR THE EXCHANGE OF METHANE AND HYDROGEN IN THE LOWER ATMOSPHERE ARE DISCUSSED.

HIGH H-3 CONCENTRATION OF FORMALDEHYDE FROM THUNDERSTORM RAINS IS PREDICTED. THE POSSIBILITY OF EQUILIBRIUM ISOTOPE EXCHANGE BETWEEN TRITIATED WATER AND TRITIATED HYDROGEN IN THERMONUCLEAR CLOUDS AND IN THE UPPER ATMOSPHERE IS ALSO NOTED. (AUTH.)
H-3, RADIONUCLIDES, BOMB TRITIUM, DISTRIBUTION, WATER VAPOR, ATMOSPHERIC METHANE, ATMOSPHERIC HYDROGEN, EXCHANGE, STRATOSPHERE, TROPOSPHERE, TRITIATED WATER, MIXING, ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING, ISOTOPE EXCHANGE, ATMOSPHERIC TRITIUM, NUCLEAR RADIATION, PERIODIC VARIATIONS, C-14

06976

J. RAVOIRE, C. LORUIS, J. ROBERT, AND E. ROTH

J. RAVOIRE, J. ROBERT, E. ROTH, COMMISSARIAT A L'ENERGIE ATOMIQUE, CENTRE D'ETUDE NUCLEAIRES, SACLAY; C. LORUIS, CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE, BOULOGNE, FRANCE

TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75(12), PP. 2331-2335, 1970, 2 FIGS., 1 TAB., 16 REFS.

TRITIUM IN A FIRN CORE FROM THE COASTAL ZONE OF ADELIE COAST, ANTARCTICA, WAS DETERMINED BY GAS-COUNTING AFTER SAMPLES WERE ENRICHED BY THERMAL DIFFUSION. MEASUREMENTS WERE MADE DOWN TO A DEPTH OF 10 M, WHICH CORRESPONDS TO A WATER EQUIVALENT OF 5.35 M EACH SAMPLE REPRESENTS ABOUT 15 CM OF WATER EQUIVALENT. MEAN ANNUAL SNOW ACCUMULATION WAS DETERMINED BY TRITIUM FALLOUT FROM NUCLEAR TESTS OF 1954 AND BY RADIOACTIVE DECAY OF NATURAL TRITIUM. THE VALUES FOUND BY FALLOUT AND BY RADIOACTIVE DECAY ARE, RESPECTIVELY, 21 AND 20 G/SQ CM/YR. THE AGREEMENT WITH DATA OBTAINED BY OTHER METHODS IS VERY GOOD. MEAN NATURAL TRITIUM CONTENT AT THE TIME OF PRECIPITATION IS 11.3 T.U., WHICH CORRESPONDS TO A RATE OF PRECIPITATION OF NATURAL TRITIUM OF 0.5 TRITIUM ATOM/SQ CM/SEC. IMPORTANT FLUCTUATIONS ARISE IN THE NATURAL TRITIUM CONTENT OF PRECIPITATION. AN ATTEMPT TO CORRELATE TRITIUM PRECIPITATION AND SOLAR ACTIVITY IS MADE DIFFICULT BY THE IRREGULARITY OF SNOW ACCUMULATION AT THE SITE OF THE CORE. (AUTHS.)

H-3, RADIONUCLIDES, FIRN PROFILES, ANTARCTICA, FALLOUT, SNOW, PRECIPITATION (METEOROLOGICAL), CONCENTRATION, ACCUMULATION RATE

06977

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RADIOLOGICAL DATING LABORATORY, TRONDHEIM, NORWAY

TRITIUM CONTENT OF RAIN IN TRONDHEIM.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75(12), PP. 2247-2249, 1970, 2 FIGS., 1 TAB., 8 REFS.

THE TRITIUM CONCENTRATION OF RAIN HAS DECREASED DURING RECENT YEARS. SINCE 1967 PRECIPITATION SAMPLES HAVE BEEN COLLECTED IN TRONDHEIM. MONTHLY SAMPLES WERE ANALYZED FOR THEIR TRITIUM CONTENT BY THE PROPORTIONAL COUNTING TECHNIQUES. THE AVERAGE TRITIUM CONCENTRATION IN 1967 WAS 190 T.U., AND THE OBSERVATIONS INDICATE AN AVERAGE FOR 1969 OF 115 TU. THE DECREASE CORRESPONDS TO A STRATOSPHERIC RESIDENCE TIME OF 3.4 YEARS FOR TRITIUM.

H-3, RADIONUCLIDES, CONCENTRATION, RAINWATER, WATER, RESIDENCE TIME, STRATOSPHERE, SR-90, PRECIPITATION (METEOROLOGICAL), MONITORING, NORWAY

06978

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RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT.

BRITISH JOURNAL OF RADIOLOGY, VOL. 40, PP. 56-61, 1967, 2 FIGS., 4 TABS., 27 REFS.

THE DISTRIBUTION AND RETENTION OF RADIOACTIVITY IN VARIOUS ORGANS OF THE RAT WAS INVESTIGATED FOLLOWING INJECTION OF TRITIATED POLIC ACID AND, FOR COMPARISON, TRITIATED WATER. AFTER AN INJECTION OF 1 MCI POLIC ACID, LIVER RECEIVED THE HIGHEST DOSE, ABOUT 90 REMS, FOLLOWED BY KIDNEY, 65 REMS, AND BONE MARROW, 15 REMS. FOR TRITIATED WATER, THE RAT BODY RECEIVED A FAIRLY UNIFORM DOSE OF ABOUT 12 REMS/MCI. ON THE BASIS OF THE RECOMMENDATIONS OF THE INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION, IT IS SUGGESTED THAT TRITIATED POLIC ACID IS ABOUT TWICE AS TOXIC AS TRITIATED WATER. (AUTHS.)

H-3, RADIONUCLIDES, TRITIATED WATER, TRITIATED POLIC ACID, TRITIATED COMPOUNDS, DISTRIBUTION, RETENTION, RATS, RODENTS, MAMMALS, RADIATION DOSE, LIVER, BONE MARROW, KIDNEY, ORGANS, TOXICITY, BIOLOGICAL HALF-LIFE, HALF-LIFE, CONCENTRATION, DOSE RATES

06979

A. A. MOGHISSI AND ROBERT LIEBERMAN

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TRITIUM BODY BURDEN OF CHILDREN, 1967-1968.

RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 11(5), PP. 227-231, 1970, 2 FIGS., 5 TABS., 17 REFS.

THE TRITIUM CONCENTRATION IN BODY WATER OF CHILDREN WAS DETERMINED FROM SAMPLES OF URINE TAKEN FROM TWO CHILDREN IN EACH OF NINE INSTITUTIONAL TOTAL DIET SAMPLING STATIONS. THE TRITIUM CONCENTRATIONS IN BODY WATER OF CHILDREN GRADUALLY DECREASED FROM ABOUT 1.5 NCI/L TO LESS THAN 0.2 NCI/L DURING THE PERIOD, JAN. 1967 TO DEC. 1968. SEVERAL ANOMALIES WERE NOTED. THE DOSE EQUIVALENT FROM TRITIUM FOR STANDARD MAN WAS CALCULATED TO BE 0.15 MREM FOR 1967 AND 0.13 MREM FOR 1968. THE DOSE EQUIVALENT FOR CHILDREN VARIES ACCORDING TO AGE AND IS ROUGHLY 0.1 MREM FOR A 13-YR-OLD CHILD. (AUTHS.)

H-3, RADIONUCLIDES, BODY BURDEN, BODY WATER, DOSE EQUIVALENTS, CHILDREN, URINE, CONCENTRATION, SAMPLING NETWORKS, DIETS, UNITED STATES

A. A. MOGHISSI AND R. J. LYON
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TRITIUM CONCENTRATIONS IN FOOD, 1967-1968.
RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 11(5), PP. 233-236, 1970, 2 FIGS., 4 TABS., 9 REFS.
TRITIUM CONCENTRATIONS WERE DETERMINED IN FOOD SAMPLES OBTAINED FROM SEVERAL CHILDREN'S HOMES IN THE UNITED STATES. THE AVERAGE CONCENTRATIONS OF TRITIUM IN FOOD INDICATE A DECREASING TREND FROM 1967 TO 1968. THE AVERAGE DOSE EQUIVALENT FROM TRITIUM IN FOOD WAS CALCULATED TO BE 0.08 MREM FOR 1967 AND 0.03 MREM FOR 1968. (AUTHS.)
H-3, RADIONUCLIDES, CONCENTRATION, FOODS, DOSE EQUIVALENTS, CHILDREN, UNITED STATES

06981
U.S. PUBLIC HEALTH SERVICE. BUREAU OF RADIOLOGICAL HEALTH.
TRITIUM IN COMMUNITY WATER SUPPLIES, 1969.
RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 11(12), PP. 692-694, 1970, 1 TAB., 1 REF.
THE HIGHEST CONCENTRATION OF TRITIUM OBSERVED IN THE WATER SUPPLIES ANALYZED WAS 2.7 NCI/L, CORRESPONDING TO A DOSE OF 0.47 MREM/A, OR LESS THAN 0.3% OF THE FEDERAL RADIATION COUNCIL RADIATION PROTECTION GUIDE (RPG) OF 170 MREM/A. THE MAJORITY OF WATER SUPPLIES ANALYZED HAD LESS THAN 1 NCI/L OF TRITIUM, CORRESPONDING TO A DOSE OF LESS THAN 0.17 MREM/A OR LESS THAN 0.1% OF THE RPG.
H-3, RADIONUCLIDES, CONCENTRATION, COMMUNITY WATER SUPPLIES, RADIATION DOSE, GROUND WATER, SURFACE WATERS, WATER, UNITED STATES, SAMPLING

06982
U.S. PUBLIC HEALTH SERVICE. BUREAU OF RADIOLOGICAL HEALTH.
TRITIUM IN SURFACE WATER NETWORK, JULY-DECEMBER 1969.
RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 11(7), PP. 347-348, 1970, 1 FIG., 1 TAB., 3 REFS.
THE HIGHEST CONCENTRATION OBSERVED DURING THE LAST 6 MONTHS OF 1969 WAS 5.3 NCI/L (CLINCH RIVER--KINGSTON, TENN.). THE HIGHEST 6-MONTH AVERAGE, 2.7 NCI/L, WAS ALSO OBSERVED AT THE CLINCH RIVER STATION. ASSUMING THAT THE SPECIFIC ACTIVITY OF TRITIUM IN THE BODY IS ESSENTIALLY THE SAME AS THAT IN THE SURFACE WATER, THIS AVERAGE CONCENTRATION CORRESPONDS TO AN ESTIMATED WHOLEBODY DOSE OF 0.4 MREM/A.
H-3, RADIONUCLIDES, SURFACE WATERS, WATER, RADIATION EXPOSURE, CONCENTRATION, SAMPLING, UNITED STATES

06983
U.S. PUBLIC HEALTH SERVICE. BUREAU OF RADIOLOGICAL HEALTH.
TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1970.
RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 11(11), PP. 638-639, 1970, 1 FIG., 1 TAB., 4 REFS.
THE HIGHEST CONCENTRATION OBSERVED DURING THE FIRST 6 MONTHS OF 1970 WAS 6.4 NCI/L (CLINCH RIVER--KINGSTON, TENN.). THE HIGHEST 6-MONTH AVERAGE, 2.5 NCI/L, WAS ALSO OBSERVED AT THE CLINCH RIVER STATION. ASSUMING THAT THE SPECIFIC ACTIVITY OF TRITIUM IN THE BODY IS ESSENTIALLY THE SAME AS THAT IN THE SURFACE WATER, THIS AVERAGE CONCENTRATION CORRESPONDS TO AN ESTIMATED WHOLE-BODY DOSE OF 0.4 MREM/A.
H-3, RADIONUCLIDES, CONCENTRATION, SURFACE WATER, WATER, RADIATION DOSE, SAMPLING, UNITED STATES

06984
WILLIAM J. KELLEHER
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ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967.
RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 10(8), PP. 329-339, 1969, 4 FIGS., 11 TABS., 9 REFS.
THIS REPORT INCLUDES DATA OBTAINED BEFORE AND AFTER THE PLANT BEGAN OPERATIONS IN APRIL 1966.
MEDIA MONITORED INCLUDED AIR AND MILK SUPPLIES IN THE SURROUNDING AREA; LIQUID WASTES; LOCAL WATERSHEDS AND STREAMS; SILT, DEER, AND FISH IN THE PLANT PERIMETER AREA. DATA OBTAINED THROUGH 1967 INDICATE THAT THE DISCHARGES FROM THE PLANT STACK HAVE NOT PRODUCED ENVIRONMENTAL EFFECTS FROM PARTICULATE BETA-PARTICLE EMITTERS OR IODINE-131 THAT MIGHT CONSTITUTE A PUBLIC HEALTH HAZARD. THE LEVELS OF RADIOACTIVITY IN DEER AND FISH WERE SUFFICIENTLY HIGH TO REQUIRE CAREFUL EVALUATION OF THE PUBLIC HEALTH SIGNIFICANCE.
ENVIRONMENTAL MONITORING, NUCLEAR FUEL PLANTS, STACK DISCHARGES, MILK, DEER, FISH, RADIOACTIVE WASTES, NEW YORK, AIR, U-238, K-40, U-235, CONCENTRATION, SILT, WATER, RADIOACTIVITY, RADIONUCLIDES, H-3, SR-90, I-131, CS-137, ZR-NB-95, CO-60, RU-106, CS-134, PU-238, PU-239

06985
T. A. WYERMAN, R. K. FARNSWORTH, AND G. L. STEWART
T. A. WYERMAN, U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION; R. K. FARNSWORTH, ESSA, OFFICE OF HYDROLOGY, SILVER SPRING, MD.; G. L. STEWART, UNIVERSITY OF MASSACHUSETTS, COLLEGE OF AGRICULTURE, AMHERST, MASS.
TRITIUM IN STREAMS IN THE UNITED STATES, 1961-1968. RADIOLOGICAL HEALTH DATA AND REPORTS, VOL. 11(9), PP. 421-439, 1970, 2 FIGS., 20 TABS., 10 REFS.
AS PART OF ITS PROGRAM OF WATER RESOURCES INVESTIGATIONS, THE U.S. GEOLOGICAL SURVEY HAS BEEN ANALYZING THE TRITIUM CONTENT OF STREAM WATER SINCE THE EARLY 1960S. THE RESULTS OF THIS SAMPLING PROGRAM FOR 20 STREAMS IN THE CONTIGUOUS UNITED STATES AND ALASKA ARE TABULATED ALONG WITH RELEVANT STREAM DISCHARGE DATA. THE DATA SHOW THE EFFECT ON STREAM TRITIUM CONCENTRATION CAUSED PRINCIPALLY BY THERMONUCLEAR DETONATIONS, AND ALSO SEASONAL, LATITUDINAL, AND CONTINENTAL EFFECTS. (AUTH.)
H-3, RADIONUCLIDES, STREAMS, CONCENTRATION, UNITED STATES, ALASKA, SAMPLING, STREAM DISCHARGE, SAMPLING NETWORK

06986
C. P. JORDAN, J. J. KORANDA, J. R. KLINE, AND J. R. MARTIN
C. P. JORDAN AND J. R. KLINE, ARGONNE NATIONAL LABORATORY, ARGONNE, ILL.; J. J. KORANDA AND J. R. MARTIN, UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.
TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM.
BIOSCIENCE, VOL. 20(14), PP. 807-812, 1970, 6 FIGS., 1 TAB., 17 REFS.
IN PUERTO RICO, TRITIUM APPLIED TO THE SOIL MOVED DOWNWARD IN A WAVE-LIKE PULSE. THE RATE OF DOWNWARD MOVEMENT WAS GREATLY REDUCED AFTER REACHING THE SOIL-SUBSOIL INTERFACE, AND THE RESIDENCE TIMES OF TRITIATED WATER IN THE PLANTS AND AIR WAS CONTROLLED BY RESIDENCE TIME OF TRITIATED WATER IN THE SOIL.
H-3, RADIONUCLIDES, TRITIATED WATER, SOILS, SOIL MOISTURE, MOVEMENT, RESIDENCE TIME, PLANTS, WATER EXCHANGE, SPECIFIC ACTIVITIES, TROPICS, WATER BUDGET, RAINFORESTS, FORESTS, PUERTO RICO

06987
J. R. MARTIN, C. P. JORDAN, J. J. KORANDA, AND J. R. KLINE
RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-72256 (PREPRINT), 21 P., 1970, 5 FIGS., 4 TABS., 19 REFS. (ALSO CONF-700101, PP. 422-438)
TRITIATED WATER WAS INJECTED IN SEVERAL EVERGREEN PUERTO RICAN ANGIOSPERMS. TRANSPIRATION RANGED FROM 4 ML/DAY/GM DRY LEAF FOR AN UNDERSTORY DACRYODES EXCELSA TO 10.0 AND 13.8 FOR MATURE SLOANEA BERTERIANA AND DACRYODES EXCELSA RESPECTIVELY. MEAN RESIDENCE TIME FOR S. BERTERIANA WAS 3.9 PLUS OR MINUS 0.2 DAYS AND THE UNDERSTORY AND MATURE D. EXCELSA VALUES WERE 9.5 PLUS OR MINUS 0.4 AND 11.0 PLUS OR MINUS DAYS RESPECTIVELY. TRITIATED WATER SPRINKLED OVER A 3.66 M(2) PLOT HAD A MEAN RESIDENCE TIME IN THE SOIL OF 42 PLUS OR MINUS 2 DAYS AND 67 PLUS OR MINUS 9 DAYS IN TREES, MUCH LONGER THAN IN SINGLY INJECTED TREES. TRITIUM WAS REMOVED FROM THE PLOT BY TRANSPIRATION AND INTERFLOW. AVERAGE TRANSPIRATION FOR THE RAINFOREST WAS CALCULATED TO BE 3.64 KG/M(2)DAY.
THE EFFECTIVE CAPACITY OF THE SOIL COMPARTMENT TO BE 280 PLUS OR MINUS 12 KG/M(2). TRITIUM INCORPORATED IN SECONDARY SPECIES TISSUES FOLLOWING INJECTION WAS ABOUT 0.1% AFTER SEVERAL WEEKS. BASED ON ALL EXPERIMENTAL DATA, TRITIUM DISTRIBUTION FROM SIMULATED RAINOUT FOLLOWING A 1-MEGATON THERMONUCLEAR

DETONATION IS PRESENTED FOR RAINFOREST AND SECONDARY FOREST AND THE FRACTION OF INPUT TRITIUM REMAINING IN EACH COMPARTMENT IS TABULATED AS A FUNCTION OF TIME. THE RESIDENCE TIME FOR EACH OF THE COMPARTMENTS DETERMINES THE PERSISTENCE OF TRITIUM DEPOSITED IN A TROPICAL ECOSYSTEM.
H-3, RADIONUCLIDES, MOVEMENT, RAINFORESTS, FORESTS, PUERTO RICO, SURFACE WATER, SOILS, TRITIATED WATER, WATER EXCHANGE, TRANSPIRATION, TROPICS, RESIDENCE TIME, HYDROLOGY, RAINOUT, DISTRIBUTION, UPTAKE, TREES

06988

M. J. OBSTWANN

ARGONNE NATIONAL LABORATORY, ARGONNE, ILL.

TRITIUM SOURCES AND RELEASE TO THE ENVIRONMENT.

TRANSACTIONS OF THE AMERICAN NUCLEAR SOCIETY, VOL. 13(2), PP. 488-487, 1970, 1 TAB., 3 REFS.

DIFFERENT SOURCES OF TRITIUM PRODUCED IN NUCLEAR POWER PLANTS THROUGH TERNARY FISSION AND FROM BORON AND LITHIUM COOLANT ADDITIVES WERE IDENTIFIED AND THE TRANSPORT MECHANISMS AND LEVEL OF TRITIUM ACTIVITY RELEASED TO THE ENVIRONMENT FROM POWER PLANTS AND FUEL REPROCESSING PLANTS WERE EVALUATED. THE SIGNIFICANCE OF THESE TRITIUM LEVELS IN RELATIONSHIP TO THOSE PRESENT FROM NATURAL PROCESSES AND NUCLEAR WEAPONS TESTING AND IN REGARD TO BEING A SOURCE OF POPULATION EXPOSURE IS POINTED OUT. (AUTH.)

H-3, RADIONUCLIDES, NUCLEAR POWER, RADIOACTIVE WASTES, NUCLEAR REACTORS, CONCENTRATION, NUCLEAR FUEL PLANTS

06989

M. J. KELLY AND R. S. BOOTH

QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES- TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-3134, 19 P., 1971, 8 PIGS., 1 TAB., 4 REFS.

U.S. ABC CONTRACT NO. W-7405-ENG-26.

THE TOTAL DOSE TO MAN FROM TRITIUM CONTAMINATION OF SOIL WAS ESTIMATED BY SIMULATING THE MOVEMENT OF TRITIUM THROUGH THE SOIL AFTER AN INITIAL WET DEPOSITION AS A DIFFUSION PROCESS WITH A SUPERIMPOSED TRANSLATION CAUSED BY RAINFALL. ONLY EXPERIMENTALLY DEMONSTRABLE CONSTANTS WERE INCORPORATED INTO THE MODEL, AND IT WAS QUALITATIVELY TESTED AGAINST EXPERIMENTAL RESULTS. INSTANTANEOUS EQUILIBRIUM WAS ASSUMED BETWEEN THE TRITIUM CONCENTRATION IN THE SOIL COMPARTMENT AND THE FOOD THAT MAN EATS.

IT IS CONCLUDED THAT, EXCEPT FOR THE DESERT, THE TIME-DEPENDENT CONCENTRATION OF TRITIUM IN THE SOIL COMPARTMENT IS PRIMARILY DETERMINED BY THE RAINFALL AFTER THE DEPOSITION, AND IT IS ESSENTIALLY INDEPENDENT OF THE ASSUMED COMPARTMENT DEATH. CONSEQUENTLY, A SIMPLE CHART COULD BE MADE FOR ESTIMATING THE TOTAL DOSE TO MAN FROM A GIVEN WET DEPOSITION SOURCE AND THE SUBSEQUENT RAINFALL RATE. (AUTHS.)

H-3, RADIONUCLIDES, CONTAMINATION, SOILS, RADIATION DOSE, MAN, MOVEMENT, DEPOSITION, MODELS, RAINFALL, PRECIPITATION (METEOROLOGICAL), MATHEMATICAL MODELS, DIFFUSION COEFFICIENT, CONCENTRATION, TRANSFER

06990

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SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS.

TRANSACTIONS OF THE AMERICAN NUCLEAR SOCIETY, VOL. 13(2), PP. 641-642, 1970, 1 REF.

EXPERIMENTS WERE PERFORMED WITH DEBRIS FROM NUCLEAR CRATERING EVENTS TO OBTAIN DATA ON THE RATES OF LEACHING OF DEBRIS RADIONUCLIDES AND THEIR RATES OF ACCUMULATION BY AQUATIC ORGANISMS. THESE DATA CAN BE USED IN MODEL SYSTEMS TO PREDICT CHANGES IN CONCENTRATIONS OF RADIONUCLIDES IN ECOSYSTEMS AND IN BIOLOGICAL FEASIBILITY STUDIES OF PROPOSED NUCLEAR EXPLOSIONS. THE LEACHING DISTRIBUTION COEFFICIENT IS DEFINED.

AQUATIC LIFE, NUCLEAR EXPLOSIONS, UNDERGROUND NUCLEAR EXPLOSIONS, CONCENTRATION, RADIONUCLIDES, H-3, TISSUES, ORGANS, AQUATIC ANIMALS, ACCUMULATION, ECOSYSTEMS

06991

J. R. MARTIN AND J. J. KORANDA

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

TRITIUM DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER EJECTA.

TRANSACTIONS OF THE AMERICAN NUCLEAR SOCIETY, VOL. 13(2), P. 642, 1970, 5 REFS.

TRITIUM DISTRIBUTION IN THE CRATER ENVIRONMENT WAS EVALUATED FROM ANALYSES OF SOIL SAMPLES COLLECTED AT 1-FT-DEPTH INTERVALS TO A DEPTH OF 6 OR 8 FT. DEPTH PROFILES AT THE TRANSECT STATIONS SHOW THAT TRITIUM CONCENTRATION ALWAYS INCREASES WITH DEPTH TO A MAXIMUM AT 3 TO 6 FT AND THEN DECREASES EXPONENTIALLY. THE AVERAGE UNIT SURFACE ACTIVITY FOR TRITIUM AT ALL GREATER LIP STATIONS DECREASED 5 PONSITALLY WITH TIME OVER THE 5-YR PERIOD WITH A HALF-TIME OF CA. 12 MONTHS. THE ENVIRONMENTAL HALF-RESIDENCE TIME FOR TRITIUM IN THE DESERT ECOSYSTEM AT SEDAN CRATER (ANNUAL RAINFALL 3 TO 6 IN.) IS CA. 13 MONTHS. THE TRITIUM INVENTORY IN THE SEDAN EJECTA WAS (1.5 PLUS OR MINUS 0.03) X 10¹⁶ CI OF TRITIUM.

H-3, RADIONUCLIDES, DISTRIBUTION, RESIDENCE TIME, SEDAN, FLOWSHARE PROGRAM, NUCLEAR CRATERS, CONCENTRATION, SOILS, DEPTH

06992

V. V. KHOROBRYKH

EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSEASYVANIE OKISI TRITIYA CHEREZ KOZHU).

HYGIENE AND SANITATION (USSR) (ENGLISH TRANSLATION OF GIGIENA I SANITARIYA), VOL. 34(1-3), PP. 206-210, 1969, 3 PIGS., 1 TAB., 5 REFS.

THE EFFECT OF SEASON OF THE YEAR AND AIR TEMPERATURE ON THE EXTENT OF ABSORPTION OF TRITIATED WATER (SPECIFIC ACTIVITY 20 MC/ML) THROUGH THE TAIL SKIN WAS STUDIED EXPERIMENTALLY WITH 94 ALBINO RATS. ABSORPTION IN SUMMER WAS 1 1/2 AND 4 1/2 TIMES GREATER THAN IN AUTUMN AND WINTER. THE MAIN FACTOR AFFECTING THE ABSORPTION IS APPARENTLY THE SURROUNDING AIR TEMPERATURE.

H-3, RADIONUCLIDES, TRITIUM OXIDE, TRITIATED WATER, ABSORPTION, SEASONAL VARIATIONS, PERIODIC VARIATIONS, AIR, TEMPERATURE, SKIN, PERCUTANEOUS ABSORPTION, RATS, RODENTS, MAMMALS

06993

MORTON A. JOHNSON AND EUGENE P. CRONKITE

BROOKHAVEN NATIONAL LABORATORY, MEDICAL RESEARCH CENTER, UPTON, N.Y.

THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE.

RADIATION RESEARCH, VOL. 30, PP. 488-496, 1967, 4 PIGS., 2 TABS., 18 REFS.

IN AN INVESTIGATION OF THE LATE EFFECTS OF TRITIATED THYMIDINE IN THE BROOKHAVEN NATIONAL LABORATORY STRAIN OF SWISS ALBINO MICE, THIS COMPOUND (SPECIFIC ACTIVITY 1.9 CI/MMOLE) WAS INJECTED INTRA-PERITONEALLY INTO FEMALE ANIMALS 6 TO 12 WKS OF AGE. 300 ANIMALS RECEIVED 5 MICROCI/GM OF BODY WEIGHT, ANOTHER 300 RECEIVED 1 MICROCI/GM OF BODY WEIGHT, 300 SERVED AS CONTROLS, AND 100 SERVED AS RADIATION CONTROLS RECEIVING 400 R OF GAMMA-RADIATION. ANIMALS WERE ALLOWED TO LIVE OUT THEIR FULL LIFE SPANS, WHICH WERE RECORDED ALONG WITH AUTOPSY FINDINGS. MEAN LIFE SPANS AND AGE-SPECIFIC MORTALITY RATES OF MICE INJECTED WITH TRITIATED THYMIDINE WERE INDISTINGUISHABLE FROM THOSE OF CONTROL ANIMALS. THERE WAS NO MEASURABLE ALTERATION IN TUMOR INCIDENCE, TUMOR TYPE, OR TIME OF NEOPLASIA THAT COULD BE ATTRIBUTED TO THE INJECTION OF THIS COMPOUND. (AUTHS.)

H-3, TRITIATED THYMIDINE, TRITIATED COMPOUNDS, RADIATION EFFECTS, MORTALITY, TUMORS, NEOPLASIA, MICE, RODENTS, MAMMALS, RADIONUCLIDES

06994

LELAND THATCHER, MEYER RUBIN, AND GLEN P. BROWN

U.S. GEOLOGICAL SURVEY, WASHINGTON, D.C.

DATING DESERT GROUND WATER.

SCIENCE, VOL. 134, PP. 550-551, 1961, 2 TABS., 1 REF.

NORTH AMERICA WITH PEAKS IN 1958 AND THE SPRING OF 1959. THESE MEASUREMENTS WILL BE USEFUL FOR FUTURE HYDROLOGIC STUDIES. WATER FROM WADI GRAVELS AVERAGES 10 YRS OLD. CARBON-14 MEASUREMENTS OF DEEP WATERS INDICATE AGES OF SEVERAL THOUSAND YEARS.
H-3, C-14, RADIONUCLIDES, RAINFALL, PRECIPITATION (METEOROLOGICAL), RADIOACTIVE AGE DETERMINATION, GROUND WATER, WATER, DESERTS, SAUDI ARABIA

06995

IRINEO LAWAS

UNIVERSITY OF THE PHILIPPINES, COLLEGE OF MEDICINE, DILIMAN, RIZAL, THE PHILIPPINES
DETERMINATION OF TOTAL BODY WATER IN HEALTHY FILIPINO SUBJECTS WITH THE USE OF TRITIATED WATER.
PHILIPPINE JOURNAL OF INTERNAL MEDICINE, VOL. 1(2), PP. 1-7, 1960, 1 FIG.

MEAN TOTAL BODY WATER OF FILIPINO MALES WAS 36.3 L AND PERCENTAGE BODY WATER VALUE PER KILO BODY WEIGHT WAS 61.4%. CORRESPONDING FIGURES FOR FEMALES ARE 23.6 L AND 50.8%.
BODY WATER, TRITIATED WATER, MAN, PHILIPPINES

06996

D. H. DENHAM AND R. L. KATHREN

BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, RICHLAND, WASH.
EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS.
HEALTH PHYSICS, VOL. 15, P. 167, 1968. (ABSTRACT)
U.S. AEC CONTRACT NO. AT(45-1)-1830.

PRELIMINARY EXPERIMENTS INDICATE THAT THE RESPONSE OF A FAST PERSONNEL MONITORING FILM TO ATMOSPHERIC TRITIUM IS APPROXIMATELY EQUIVALENT TO 2-3 HR OF (60)CO EXPOSURE PER MPC-HR, WITH A MINIMUM LEVEL OF DETECTABILITY OF ABOUT 10 MPC-HR. FOR A GIVEN EXPOSURE, THE MAGNITUDE OF THE EFFECT IS A FUNCTION OF THE TRITIUM CONCENTRATION AND THE TIME BETWEEN TERMINATION OF EXPOSURE AND DEVELOPMENT OF THE FILM. THE EFFECTS OF TRITIUM ARE REDUCED ABOUT AN ORDER OF MAGNITUDE BY ENCASEMENT OF THE FILM PACKET IN A HEAT SEALED 0.005 IN. POLYETHYLENE POUCH. LITTLE OR NO EFFECT WAS NOTED ON LIP IN TEFLON OR LOW Z RADIO- PHOTOLUMINESCENT GLASS DOSIMETERS. THE PREDICTABLE RESPONSE OF FILM IMPLIES ITS USEFULNESS AS A PERSONNEL MONITOR FOR ATMOSPHERIC TRITIUM, EVEN IN MIXED RADIATION FIELDS. THE DATA ALSO SUGGEST THAT ORDINARY BETA-GAMMA FILM BADGES SHOULD NOT BE WORN IN TRITIATED ATMOSPHERES WITHOUT PROTECTION FROM THE EFFECTS OF TRITIUM, UNLESS REDUNDANCE IS PROVIDED BY A DOSIMETER NOT AFFECTED BY ATMOSPHERIC TRITIUM.
H-3, RADIONUCLIDES, ATMOSPHERIC TRITIUM, DOSIMETERS, PHOTOGRAPHIC DOSIMETERS, THERMOLUMINESCENT DOSIMETERS, RADIOPHOTOLUMINESCENT DOSIMETERS, MONITORING, PERSONNEL MONITORING

06997

PIERRE HUBERT, MICHEL MEYBECK, AND PHILIPPE OLIVE

UNIVERSITY OF PARIS, THONON-LES-BAINS, FRANCE
ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA).)
COMPTES RENDUS HEBDOMADAIRES DES SEANCES DE L'ACADEMIE DES SCIENCES, SERIE D, SCIENCES NATURELLES, VOL. 270(10), PP. 1298-1301, 1970, 3 FIGS., 1 TAB., 9 REFS.

LAC LEMAN CAN BE DIVIDED INTO THREE LAYERS OF DIFFERENT DYNAMIC BEHAVIOR, THE MIDDLE LAYER FROM 50 TO 150 M PLAYING THE MOST IMPORTANT PART IN THE WATER TURNOVER. THE MOVEMENTS OF THERMAL CONVECTION ONLY AFFECT THE SURFACE LAYER BETWEEN 0 AND 50 M, WHEREAS THE WATERS OF THE DEEPEST LAYER EXHIBIT A LARGE DEGREE OF INERTIA. BY THE USE OF TRITIUM AS AN ISOTOPIC TRACER IT IS POSSIBLE TO DIFFERENTIATE MASSES OF WATER OF IDENTICAL PHYSICO-CHEMICAL COMPOSITION. THIS ISOTOPE ALSO OFFERS A TIME SCALE AND IS THEREFORE PARTICULARLY WELL SUITED TO RESEARCH ON THE DYNAMIC BEHAVIOR OF LAKES. (NSA 24, NO. 36386)

H-3, RADIONUCLIDES, RADIOACTIVE TRACERS, LAKE GENEVA, LAKES, TRACERS, MIXING

06998

H. L. VOLCHOK, M. PEINER, H. J. SIMPSON, W. S. BROECKER, V. E. NOSHKIN, V. T. BOWEN, AND E. WILLIS
H. L. VOLCHOK, M. PEINER, U.S. ATOMIC ENERGY COMMISSION, HEALTH AND SAFETY LABORATORY, NEW YORK, N.Y. 10014; H. J. SIMPSON, W. S. BROECKER, COLUMBIA UNIVERSITY, LAMONT-DOHERTY GEOLOGICAL OBSERVATORY, PALISADES, N.Y.; V. E. NOSHKIN, V. T. BOWEN, WOODS HOLE OCEANOGRAPHIC INSTITUTION, WOODS HOLE, MASS.; E. WILLIS, ISOTOPES INC., WESTWOOD, N.J.
OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75, PP. 1084-1091, 1970, 2 FIGS., 4 TABS., 31 REFS.

THE TOTAL INVENTORY OF STRONTIUM 90 IN CRATER LAKE, OREG., WAS DETERMINED TO BE 4.2 CURIES. IN TERMS OF SURFACE FALLOUT, THIS IS EQUIVALENT TO ABOUT 70 MC/KM(2). THE COMPARABLE FALLOUT ON THE SURROUNDING LAND AREA, DETERMINED FROM ANALYSES OF SOIL SECTIONS WAS 58 MC/KM(2), AND A VALUE PREDICTED BY EXTRAPOLATION FROM OTHER OREGON STATIONS WAS 73 MC/KM(2). HENCE, NO SUBSTANTIAL DIFFERENCE IN THE EFFICIENCY OF FALLOUT COLLECTION COULD BE ATTRIBUTED TO THE MERE PRESENCE OF THE LARGE WATER SURFACE. TRITIUM MEASUREMENTS OF A NUMBER OF SAMPLES WERE PERFORMED AND THE DATA ARE LISTED. THE DECREASE IN H(3) CONCENTRATION WITH DEPTH IS NOT EXPLAINABLE BY THE UNCERTAINTIES OF THE ANALYSES. (AUTH.)
FALLOUT, CRATER LAKE, LAKES, SR-90, CS-137, H-3, RADIONUCLIDES, WATER, TEMPERATURE PROFILES, CONCENTRATION, SOILS, SEDIMENTS

06999

H. GOETE OESTLUND AND EDWIN X. BERRY

H. G. OESTLUND, UNIVERSITY OF MIAMI, INSTITUTE OF MARINE AND ATMOSPHERIC SCIENCES, MIAMI, FLA.; E. X. BERRY, UNIVERSITY OF NEVADA, DESERT RESEARCH INSTITUTE, RENO, NEV.
MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE.
TELLUS, VOL. 22, PP. 463-465, 1970, 1 FIG., 2 TABS., 5 REFS.
NATIONAL SCIENCE FOUNDATION GRANT NO. GA-1336.

IN A PARCEL OF MOIST AIR IN CONTACT WITH A LAKE SURFACE, WATER MOLECULES, BOTH WATER AND HTO, ARE TRANSFERRED BOTH WAYS BETWEEN THE GASEOUS AND LIQUID PHASES. THE NET TRANSFERS OF WATER AND OF HTO ARE IN THE DIRECTION OF DECREASING CHEMICAL POTENTIAL OF EACH SPECIES. EQUATIONS ARE DEVELOPED TO REPRESENT THE RELATION BETWEEN THE MOLECULAR TRANSFER RATES OF WATER AND HTO AT THE LAKE/AIR INTERFACE.

ATMOSPHERIC TRITIUM, WATER VAPOR, TRANSFER, LAKES, LAKE TAHOE, H-3, RADIONUCLIDES, TRANSFER RATES, AIR, EQUATIONS

07000

DANIEL P. CAHILL AND CHARLES L. YUILE

UNIVERSITY OF ROCHESTER, DEPT. OF RADIATION BIOLOGY AND BIOPHYSICS, ROCHESTER, N.Y.
TRITIUM- SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT.
RADIATION RESEARCH, VOL. 44, PP. 727-737, 1970, 3 TABS., 26 REFS.

PREGNANT RATS WERE MAINTAINED AT CONSTANT BODY ACTIVITIES OF TRITIATED WATER RANGING THROUGH 1-100 MICROCI/ML OF BODY WATER THROUGHOUT PREGNANCY. THESE ACTIVITIES PROVIDED TOTAL-BODY DOSES TO THE EMBRYO AND FETUS OF APPROXIMATELY 0.3-30.0 RADS/DAY. STATISTICALLY SIGNIFICANT FINDINGS AT VARIOUS HTO LEVELS INCLUDED- MICRORCEPHALY, STERILITY, STUNTING, LITTER SIZE REDUCTION, AND INCREASED RESORPTION. DECREASES IN THE ABSOLUTE AND RELATIVE WEIGHTS OF A NUMBER OF TERM FETUS ORGANS WERE CLOSELY PROPORTIONAL TO DOSE. HISTOLOGICALLY ALL ORGANS WERE NORMAL EXCEPT THE GONADS. TRITIUM INCORPORATION INTO FETAL ORGANS WAS DIRECTLY PROPORTIONAL TO, AND 20-30% OF, THE AVERAGE MATERNAL BODY WATER HTO ACTIVITY PREVAILING DURING GESTATION. POSTNATAL OBSERVATIONS SHOWED THAT BY 160 DAYS STUNTING WAS NO LONGER EVIDENT IN IRRADIATED FEMALES BUT PERSISTED IN MALES IRRADIATED AT 50-100 MICROCI/ML. WITHIN 270 DAYS 5 TUMORS HAD ARISEN IN IRRADIATED ANIMALS COMPARED TO 1 IN A CONTROL ANIMAL.

RATS, RODENTS, MAMMALS, TRITIATED WATER, RADIATION DOSE, MAMMALIAN DEVELOPMENT, RADIATION EFFECTS, BIOLOGICAL EFFECTS, H-3, RADIONUCLIDES ORGANS, FETUS, EMBRYO

R. C. COOLEY, SR.
E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S.C.
CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS.
HEALTH PHYSICS, VOL. 15, P. 167, 1968. (ABSTRACT)

IN HEAVY WATER MODERATED REACTORS TRITIUM IS FORMED AS NEUTRONS ARE ABSORBED BY THE HEAVY WATER. HAZARDS FROM TRITIUM RELEASED TO PERSONNEL ZONES DURING REPAIR AND MAINTENANCE OPERATIONS ARE MINIMIZED BY PROPER JOB EVALUATION AND SELECTION OF CORRECT PROTECTIVE EQUIPMENT. AT SAVANNAH RIVER PLANT BASIC INFORMATION HAS BEEN DEVELOPED TO FACILITATE THIS PROCESS. CURVES INCLUDED SHOW- 1) BUILDUP OF TRITIUM IN MODERATOR AS A FUNCTION OF REACTOR OPERATING TIME AND NEUTRON FLUX, 2) RESPONSE OF KANNE CHAMBERS TO AIRBORNE CONCENTRATIONS OF TRITIUM, 3) CONCENTRATION OF TRITIUM IN AIR AS A FUNCTION OF TRITIUM CONCENTRATION IN SPILLED MODERATOR, 4) TRITIUM CONCENTRATION IN AIR ABOVE LARGE BASINS OF WATER AS A FUNCTION OF TRITIUM CONCENTRATION IN THE WATER, 5) RATE OF ASSIMILATION OF TRITIUM BY PERSONNEL WITH AND WITHOUT RESPIRATORY PROTECTION AS A FUNCTION OF TRITIUM CONCENTRATION IN AIR, 6) ASSIMILATION RESULTING FROM CONTACT OF VARIOUS PARTS OF THE BODY WITH THE MODERATOR, AND 7) DOSE RECEIVED FROM ASSIMILATED TRITIUM AS A FUNCTION OF TRITIUM CONCENTRATION IN URINE AND BIOLOGICAL HALF-LIFE.
H-3, RADIONUCLIDES, TRITIUM HAZARDS, HEAVY WATER REACTORS, NUCLEAR REACTORS, CONCENTRATION, ASSIMILATION, URINE, BIOLOGICAL HALF-LIFE, HALF-LIFE, WATER, HAZARDS

07002

EIZO TAJIMA

(HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.)

RADIOISOTOPES (TOKYO), VOL. 14, PP. 335-342, 1966, 4 FIGS., 8 TABS., 25 REFS. (IN JAPANESE)

HUMAN-BODY DOSES FROM NATURAL RADIOACTIVITIES FROM THE FOLLOWING SOURCES ARE DESCRIBED IN DETAIL- 1) EXTERNAL RADIATIONS (COSMIC RAYS AND GROUND RADIATIONS); 2) RN-220, ETC., IN THE ATMOSPHERE; 3) RADIO-ACTIVE CARBON; AND 4) NATURAL RADIOACTIVE SUBSTANCES IN THE INTERNAL ORGANS (K-40, C-14, H-3, RA-226, PB-210, BI-210M, AND PO-210). (NSA 20, NO. 25335)
RN-222, RN-220, C-14, K-40, H-3, RA-226, PB-210, BI-210, PO-210, RADIONUCLIDES, RADIATION DOSE, COSMIC RADIATION, RADIATION, ATMOSPHERE (TERRESTRIAL), ORGANS, MAN, RADIATION EXPOSURE, WHOLE BODY EXPOSURE

07003

G. L. STEWART AND C. M. HOFFMAN

TRITIUM RAINOUT OVER THE UNITED STATES IN 1962 AND 1963.

U.S. GEOLOGICAL SURVEY CIRCULAR NO. 520, 11 P., 1966, 3 FIGS., 2 TABS., 5 REFS.

THE TRITIUM SAMPLING NETWORK ESTABLISHED BY THE U.S. GEOLOGICAL SURVEY IS DESCRIBED. TRITIUM RAINOUT DATA ARE INCLUDED FOR 1962 AND 1963 PRECIPITATION COLLECTED AT 15 STATIONS IN THE UNITED STATES AND PUERTO RICO. THESE DATA ARE PRESENTED GRAPHICALLY TO SHOW SEASONAL VARIATIONS AND GEOGRAPHIC DISTRIBUTION PATTERNS FOR 1963 TRITIUM RAINOUT. TOTAL TRITIUM RAINOUT DURING 1963 WAS CONSIDERABLY HIGHER THAN IT WAS IN PREVIOUS YEARS. PEAK TRITIUM CONCENTRATIONS IN LATE SPRING OR EARLY SUMMER OF 1963 WERE HIGHER BY A FACTOR OF THREE OR MORE OVER CONCENTRATIONS MEASURED IN 1962. (AUTHS.)
H-3, RADIONUCLIDES, RAINOUT, WASHOUT, SEASONAL VARIATIONS, PERIODIC VARIATIONS, DISTRIBUTION, UNITED STATES, CONCENTRATION, PRECIPITATION (METEOROLOGICAL), SAMPLING, SAMPLING NETWORK, PUERTO RICO, ALASKA

07004

COMMONWEALTH BUREAU OF SOILS, HARPENDEN, ENGLAND

BIBLIOGRAPHY ON TRITIUM IN GROUNDWATER AND AS GROUNDWATER TRACER (1964-1965).

COMMONWEALTH BUREAU OF SOILS, BIBLIOGRAPHY NO. 759, 3 P., 1964, 22 REFS.

BRIEFLY ANNOTATED.

H-3, RADIONUCLIDES, GROUND WATER, WATER, BIBLIOGRAPHY, TRACERS, HYDROLOGY

07005

JACQUES ALVIERIE, BERNADETTE DEGOT, PAUL LEVEQUE, AND MICHEL VIGNEAUX

ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE

BASIN POURING FROM MONT CENIS.)

COMPTES RENDUS DES SEANCES DE L'ACADEMIE DES SCIENCES, PARIS, SERIE D, 262, PP. 32-35, 1966, 2 FIGS., 1 TAB., 1 REF.

THE DISTRIBUTION OF TRITIUM IN THE WATERS OF THE MONT CENIS LAKE SHOWED A SHARPLY DIFFERENTIATED STRATIFICATION IN 1964. THE WATERS OF LEVELS WITH VERY LITTLE ACTIVITY UP TO AUG. 1965 SHOWED, AFTER THIS DATE, A SHARP INCREASE IN ACTIVITY. (TRANSL. AUTH., NSA 20, NO. 16669)

H-3, RADIONUCLIDES, DISTRIBUTION, LAKES, FRANCE, STRATIFICATION, PRECIPITATION, TEMPERATURE, HYDROLOGY

07006

G. L. STEWART AND T. A. WYERMAN

G. L. STEWART, UNIVERSITY OF MASSACHUSETTS, AMHERST, MASS.; T. A. WYERMAN, U.S. GEOLOGICAL SURVEY, WASHINGTON, D.C.

TRITIUM RAINOUT IN THE UNITED STATES DURING 1966, 1967, AND 1968.

WATER RESOURCES RESEARCH, VOL. 6, PP. 77-78, 1970, 4 FIGS., 5 TABS., 7 REFS.

ANNUAL WEIGHTED AVERAGE TRITIUM CONCENTRATION AND TOTAL TRITIUM RAINOUT FOR UNITED STATES PRECIPITATION CONTINUED TO DECLINE DURING 1966-68. ARITHMETIC MEAN WEIGHTED AVERAGE TRITIUM CONCENTRATION FOR 12 NETWORK STATIONS DECREASED ABOUT 38% IN 1966 COMPARED TO 1965, ABOUT 35% IN 1967 COMPARED TO 1966; AND ABOUT 30% IN 1968 COMPARED TO 1967. THE 1966, 1967, AND 1968 VALUES WERE ONLY 20%, 13%, AND 9% RESPECTIVELY, AS GREAT AS THEY WERE IN 1963. TRITIUM DATA FOR SPECIAL SAMPLES COLLECTED FOLLOWING THE CHINESE NUCLEAR BOMB TESTS ON MAY 9, 1966, AND JUNE 17, 1967, INDICATE THAT NO MEASURABLE TRITIUM WAS ADDED TO UNITED STATES PRECIPITATION AS A RESULT OF THESE NUCLEAR EXPLOSIONS. TRITIUM DATA ARE PRESENTED IN BOTH TABULAR FORM AND ON CONTOURED UNITED STATES MAPS IN ORDER THAT ESTIMATES OF THE TRITIUM INPUT FUNCTION FROM PRECIPITATION TO HYDROLOGIC SYSTEMS CAN EASILY BE MADE. (AUTHS.)
H-3, RADIONUCLIDES, RAINOUT, FALLOUT, PRECIPITATION (METEOROLOGICAL), CONCENTRATION, ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING, DISTRIBUTION, RAINFALL, SAMPLING, SAMPLING NETWORKS

07007

AGNES N. STROUD

THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO.

ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, VOL. 67, PP. 13-34, 1966, 6 FIGS., 6 TABS., 23 REFS.

A STUDY OF CONTINUOUS IRRADIATION, DELIVERED BY THE INCORPORATION OF TRITIUM OXIDE IN THE CULTURE MEDIUM OF CHICK EMBRYO SKELETAL MUSCLE TISSUE CULTURES, SHOWED THAT AT LOW DOSE RATES, STRUCTURAL CHROMOSOME CHANGES ARE RARE, ALTHOUGH A VARIETY OF FUNCTIONAL MITOTIC ABNORMALITIES OCCUR, WHICH CAUSE A PROLONGATION OF VISIBLE MITOSIS, ESPECIALLY METAPHASE. UNDER THESE CONDITIONS, THE MITOTIC INDEX IS NOT A VALID INDEX OF THE RATE OF CELL DIVISION. AMONG THE DIVERSE ALTERATIONS OBSERVED, THE METAPHASE CLEAVAGE FURROW AND THE SURFACE MOTIONS OF THE CELLS ARE FUNCTIONALLY INDEPENDENT OF THE STATE OF THE SPINDLE AND CHROMOSOME MOVEMENT. MORE CLOSELY DEPENDENT ON DOSE RATE THAN TOTAL RADIATION DOSE ARE DEPRESSION OF PROPHASE INDEX (PROBABLY CLOSELY RELATED TO TRUE RATE OF CELL DIVISION) AND THE PROPORTION OF VISIBLY ABNORMAL METAPHASES. AT HIGH DOSE RATES EXPLOSIVE DEATH OF CELLS IS COMMON, ACCOMPANIED BY THE ACCUMULATION OF BASOPHILIC MATERIAL IN THE CYTOPLASM.

THE NOTED CHANGES ARE ASSUMED TO BE DUE TO IRRADIATION BY THE TRITIUM BETA RAYS, AND SOME MAY BE DUE TO RECOIL OF A TRITIUM INCORPORATED IN AN ORGANIC MOLECULE. THIS REMAINS UNEVALUATED BECAUSE THERE ARE NO COMPARABLE OBSERVATIONS ON X OR GAMMA RAYS. THAT NO CONSIDERABLE QUANTITATIVE DIFFERENCES EXIST IS INFERRED BY THE COMPARABLE TOXICITIES OF X- AND TRITIUM RADIATION TO WHOLE ANIMALS. THE METHODS EMPLOYED DO NOT APPEAR SUITABLE TO DEMONSTRATE QUANTITATIVE DIFFERENCES DUE TO DIFFERENCES IN LINEAR ENERGY TRANSFER.

H-3, RADIATION, IRRADIATION, CELLS, CELL NUCLEUS, CULTURE MEDIUM, CHROMOSOMES, CELL DIVISION, MITOSIS, RADIATION EFFECTS, GENETIC EFFECTS, DOSE RATE, RADIATION DOSE, TRITIUM OXIDE

V. P. BOND AND L. E. FEINENBERG

V. P. BOND, BROOKHAVEN NATIONAL LABORATORY, MEDICAL RESEARCH CENTER, UPTON, N.Y.
INTRANUCLEAR H-3 THYMIDINE- DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS.
HEALTH PHYSICS, VOL. 12, PP. 1007-1020, 1966, 2 FIGS., 1 TAB., 62 REFS.

IT APPEARS FROM A STUDY OF AVAILABLE DATA THAT THE DEGREE OF EARLY SOMATIC BIOLOGICAL EFFECT FROM INTRANUCLEAR H-3 IS THAT ANTICIPATED ON THE BASIS OF CALCULATED AVERAGE ABSORBED DOSE TO THE CELL NUCLEUS, AT LEAST DOWN TO DOSES OF 5 RAD OR LESS. TRANSMUTATION EFFECTS OF THE DISINTEGRATING H-3 NUCLEIDE IN DNA APPEAR TO HAVE BEEN DEMONSTRATED TO PRODUCE GENETIC MUTATIONS IN MICROORGANISMS, AND DATA SUGGESTIVE OF THIS MECHANISM IN DROSOPHILA ARE AVAILABLE. THE DEGREE TO WHICH THIS FACTOR IN ADDITION TO ABSORBED DOSE MUST BE TAKEN INTO ACCOUNT IN ESTIMATING POSSIBLE GENETIC EFFECTS IN THE MAMMAL CANNOT BE ASSESSED ADEQUATELY AT THIS TIME, BUT APPEARS TO BE SMALL. FROM AVAILABLE DATA, IT APPEARS THAT THE DEGREE OF GENETIC EFFECT IN MAMMALIAN CELLS CAN BE APPROXIMATED CLOSELY FROM THE AVERAGE ABSORBED DOSE TO THE NUCLEUS. THE INTRINSIC RBE OF H-3 BETA PARTICLES APPEARS TO BE 1.0 (COMPARED TO 250 KVP X-RAYS), RATHER THAN THE VALUE OF 1.7 CURRENTLY USED FOR RADIATION PROTECTION. (AUTH.)

H-3, RADIONUCLIDES, DNA, TRITIATED THYMIDINE, BIOLOGICAL EFFECTS, MUTATIONS, RELATIVE BIOLOGICAL EFFECTIVENESS, GENETIC EFFECTS, CELL NUCLEUS, CELLS

07009

A. J. BATEMAN AND ANN C. CHANDLEY

CHRISTIE HOSPITAL AND HOLT RADIUM INSTITUTE, MANCHESTER, ENGLAND
MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE.
NATURE, VOL. 193, PP. 705-706, 1962, 1 REF.

TRITIATED THYMIDINE WAS INJECTED INTRAPERITONEALLY INTO 2 MONTH OLD MALE MICE AND ITS METABOLISM WAS FOLLOWED BY ANALYSIS OF SPERM SAMPLES. DATA ARE PRESENTED ON THE TRANSMUTAGENIC EFFECT OF THE TRITIATED THYMIDINE.

H-3, TRITIATED THYMIDINE, TRITIATED COMPOUNDS, MICE, RODENTS, RADIATION EFFECTS, BIOLOGICAL EFFECTS, RADIONUCLIDES, GENETIC EFFECTS, MUTATIONS

07010

ARNOLD DUNN AND SUSAN STRAHS

UNIVERSITY OF SOUTHERN CALIFORNIA, DEPT. OF BIOLOGICAL SCIENCES, LOS ANGELES, CALIF.
A COMPARISON OF H-3- AND C-14-GLUCOSE METABOLISM IN THE INTACT RAT.
NATURE, VOL. 205, PP. 705-706, 1965, 1 TAB., 7 REFS.

U.S. PUBLIC HEALTH SERVICE RESEARCH GRANT AM-07215-01.

THE ANOMALOUS BEHAVIOR OF GLUCOSE-6- H-3 WHEN USED TO MEASURE GLUCOSE TURNOVER IN RATS IS REPORTED. C-14-GLUCOSE WAS USED TO INVESTIGATE THE REASON FOR THE HIGH VALUES OF BODY GLUCOSE, GLUCOSE SPACE, AND RATES OF PRODUCTION AND UTILIZATION WHICH WERE OBTAINED WITH H-3-GLUCOSE. RESULTS INDICATE THE TRITIUM IS LOST FROM THE H-3-GLUCOSE DURING METABOLISM.

H-3, TRITIATED GLUCOSE, TRITIATED COMPOUNDS, METABOLISM, RATS, RODENTS, C-14, RADIONUCLIDES

07011

EUGENE P. CRONKITE, SAMUEL W. GREENHOUSE, GEORGE BRECHER, AND VICTOR P. BOND

IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION.

NATURE, VOL. 189, PP. 153-154, 1961, 1 FIG., 5 REFS.

THE LONG-TERM RETENTION OF TRITIATED THYMIDINE BY LABELLING OF CHROMOSOMAL DEOXYRIBONUCLEIC ACID IS DISCUSSED. DATA ARE PRESENTED ON THE LABELLING OF CHROMOSOMES AFTER MITOSIS.

H-3, TRITIATED THYMIDINE, LABELLING, CHROMOSOMES, DNA, BIOLOGICAL EFFECTS, RADIATION EFFECTS, RADIONUCLIDES, RETENTION, GENETIC EFFECTS

07012

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A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR.

HEALTH PHYSICS, VOL. 7, PP. 161-169, 1962, 6 FIGS., 3 TABS., 7 REFS.

TRITIUM-LABELED WATER WAS INJECTED INTRAVENOUSLY INTO A YOUNG MALE ADULT AND THE TIME COURSES OF SPECIFIC RADIOACTIVITY IN PLASMA, RED CELLS, URINE AND EXPIRED WATER VAPOR WERE DETERMINED AND COMPARED. SPECIFIC ACTIVITY OF BREATH WATER AND URINE APPEARED TO FOLLOW A PATTERN OF DAMPED OSCILLATION ABOUT THE CURVE FOR THE SPECIFIC ACTIVITY OF PLASMA WATER. THE TRANSFER FUNCTION OF THE BIOLOGICAL SYSTEM FOR THE INJECTION OF RADIOACTIVITY WAS DETERMINED. RESULTS INDICATED THAT BREATH WATER SAMPLES MAY UNDER CERTAIN CIRCUMSTANCES BE SUBSTITUTED FOR URINE OR PLASMA WATER SAMPLES IN THE DETERMINATION OF TOTAL BODY WATER.

H-3, TRITIATED WATER, URINE ANALYSIS, URINE SAMPLING, BLOOD, TRANSFER, BODY FLUIDS, BODY WATER, SPECIFIC ACTIVITIES, RADIONUCLIDES, EXHALED WATER VAPOR, MAN, TRACERS

07013

D. EHRLHART, G. ISRAEL, W. ROTHBERG, AND W. STICH

D. EHRLHART, G. ISRAEL, W. ROTHBERG, UNIVERSITY OF HEIDELBERG, GERMANY; W. STICH, ESSELSCHAFT FUER LINDEN BISMASCHINEN A.G. LOHNOP, BAVARIA

TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68(13), PP. 3747-3751, 1963, 5 FIGS., 6 REFS.

A SUBSTANTIAL INCREASE OF MAN-MADE TRITIUM IN ATMOSPHERIC HYDROGEN WAS FIRST REPORTED BY GONSIOR IN 1959. BEGEMANN AND FRIEDMAN, ALSO IN 1959, POINTED OUT THAT ADMIXTURE OF INDUSTRIAL HYDROGEN CAUSES LARGE FLUCTUATIONS IN SPECIFIC TRITIUM ACTIVITY. IN FURTHER MEASUREMENTS GONSIOR WAS ABLE TO SHOW THAT IN AT LEAST A FEW CASES LARGE ACTIVITY PEAKS WERE DIRECTLY DUE TO TEST EXPLOSIONS, THUS SUGGESTING THAT UNBURNED TRITIUM LEAVES THE FIRE BALL. A SERIES OF NEW MEASUREMENTS ON THE HYDROGEN EXTRACTED DIRECTLY FROM RAW NEON SAMPLES SHOWS QUANTITATIVELY THAT ADMIXTURE OF INDUSTRIAL HYDROGEN HAS INDEED A SERIOUS EFFECT. IN MANY CASES, HOWEVER, A CORRECTION BY MEANS OF A DEUTERIUM ASSAY AS SUGGESTED BY BEGEMANN AND FRIEDMAN SEEMS PRACTICABLE. THE CORRECTED VALUES SHOW A STEADY AND RELATIVELY STEEP RISE IN TRITIUM UP TO 10(6) T.U. IN 1962. AS THERE WAS AN EXTENDED GAP IN THE TEST SERIES BETWEEN 1958 AND 1961, THIS BEHAVIOR POINTS TO AN ADDITIONAL SOURCE OF TRITIUM, PRESUMABLY THE NUCLEAR INDUSTRY, AS IS THE CASE WITH KR-85. (AUTHS.)

H-3, DEUTERIUM, RADIONUCLIDES, ATMOSPHERIC HYDROGEN, SPECIFIC ACTIVITIES, ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING, NUCLEAR TESTING, AIR

07014

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ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS.

TELLUS, VOL. 15(3), PP. 303-306, 1963, 2 FIGS., 3 TABS., 4 REFS.

A METHOD IS DEMONSTRATED BY WHICH THE HYDROLOGICAL CHARACTERISTICS OF A RIVER BASIN ARE COMPUTED FROM A KNOWLEDGE OF ADDED BOMB-PRODUCED TRITIUM IN PRECIPITATION AND TRITIUM IN RUN-OFF. IT IS ALSO DEMONSTRATED THAT THE HYDROLOGICAL CHARACTERISTICS THUS COMPUTED AGREE WELL WITH THE PHYSIOGRAPHY AND GEOLOGY OF THE BASIN. (AUTH.)

H-3, RADIONUCLIDES, NUCLEAR RADIATION, HYDROLOGY, WATERSHEDS, PRECIPITATION (METEOROLOGICAL), RUNOFF, EQUATIONS, RIVERS, AIR, CONCENTRATION, GEOLOGY, MORPHOLOGY

07015

H. OOSTE OESTLUND, MAURICE O. RINKEL, AND CLAES ROOTH

UNIVERSITY OF MIAMI, INSTITUTE OF MARINE SCIENCES, MIAMI, FLA.

TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 74(18), PP. 4535-4543, 1969, 6 FIGS., 2 TABS., 16 REFS.

NATIONAL SCIENCE FOUNDATION GRANTS GP-14446, GP-3353, AND GP-5096; U.S. ABC CONTRACT NO. AT(40-1)-3328.

SPECIFIC ACTIVITIES OF TRITIUM, AS HTO, IN SEA WATER, IS DESCRIBED. TRITIUM DATA, TOGETHER WITH SALINITY AND TEMPERATURE FROM THE EQUANT III EXPEDITION IN 1964 ARE PRESENTED AND DISCUSSED. NEGLIGIBLE PENETRATION OF HTO BELOW THE THERMOCLINE IS FOUND IN THIS AREA. TRITIUM-SALINITY RELATIONS SUPPORT THE CONCEPT THAT MOLECULAR EXCHANGE CONSTITUTES A MAJOR PORTION OF THE AIR TO SEA FLUX OF HTO. A TIME SCALE OF A FEW YEARS SEEMS REASONABLE FOR THE TRANSFER OF DISTANT SURFACE WATER TO THE SALINITY AND CURRENT CORES OF THE EQUATORIAL ATLANTIC UNDERCURRENT. (AUTHS.)
H-3, RADIONUCLIDES, TRITIATED WATER, SPECIFIC ACTIVITIES, SEA WATER, WATER, SALINITY, TEMPERATURE, THERMOCLINE, MIXING, TRANSPORT, SAMPLING, EQUATORIAL CURRENTS, ATLANTIC OCEAN, OCEANS, CURRENTS, DEPTH, EQUATIONS, SAMPLING

07016

H. GÖRTE OESTLUND

UNIVERSITY OF MIAMI, INSTITUTE OF MARINE AND ATMOSPHERIC SCIENCES, MIAMI, FLA.

HURRICANE TRITIUM III- EVAPORATION OF SEA WATER IN HURRICANE FAITH 1966.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75(12), PP. 2303-2308, 1970, 3 FIGS., 2 TABS., 10 REFS.

RADIAL DISTRIBUTION OF FUSION-BOMB-PRODUCED TRITIUM, AS HTO, HAS BEEN MEASURED IN THE INFLOW LAYER OF A HURRICANE, TOGETHER WITH TEMPERATURE, HUMIDITY, AND WIND DATA. THE TRITIUM VALUES ARE USED TO DETERMINE THE RATE OF EVAPORATION OF SEA WATER WITHIN THE STORM ENVELOPE. IN FAITH, AUGUST 28, 1966, THIS EVAPORATION AMOUNTED TO 10% OF THE TOTAL WATER VAPOR BUDGET INSIDE 150-KM RADIUS.

RADIAL DISTRIBUTION OF EVAPORATION RATES AND RAINFALL RATES WAS OBTAINED. LARGEST UNCERTAINTY IN THE RESULTS ARISES FROM THE MEASUREMENT OF RELATIVE WIND COMPONENT. (AUTH.)

H-3, RADIONUCLIDES, TRITIATED WATER, HURRICANES, DESTRUCTIVE FACTORS, EVAPORATION, SEA WATER, RADIAL DISTRIBUTION, RAINFALL, DISTRIBUTION, WATER, EQUATIONS, METEOROLOGY

07017

BERNHARD GONSIOR, IRVING FRIEDMAN, AND GEORG LINDENMAYR

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NEW TRITIUM AND DEUTERIUM MEASUREMENTS IN ATMOSPHERIC HYDROGEN.

TELLUS, VOL. 18(2), PP. 256-261, 1966, 5 FIGS., 9 REFS.

TRITIUM AND DEUTERIUM ANALYSES WERE MADE ON SAMPLES OF ATMOSPHERIC HYDROGEN COLLECTED IN 1961.

A POSITIVE CORRELATION EXISTS BETWEEN TRITIUM AND DEUTERIUM. THE HEAVIEST SAMPLES YIELD A VALUE OF ABOUT +18% S.M.O.W. FOR ATMOSPHERIC HYDROGEN. THE DEUTERIUM CONCENTRATION OF THE INDUSTRIAL HYDROGEN VARIES FROM -18% TO -22%. THE INDUSTRIAL HYDROGEN IS PARTIALLY ATTRIBUTED TO HYDROGEN FROM AUTOMOBILE EXHAUST GAS. THE CORRECTED TRITIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN CONTINUES TO INCREASE, DOUBLING EVERY TWO YEARS. SEVERAL LARGE TRITIUM PEAKS ARE CORRELATED WITH SOVIET WEAPON TESTS. (AUTHS.)

H-3, DEUTERIUM, RADIONUCLIDES, ATMOSPHERIC HYDROGEN, CONCENTRATION, ATMOSPHERIC NUCLEAR TESTING, ATMOSPHERIC TESTING, HYDROGEN

07018

B. GONSIOR, I. FRIEDMAN, AND D. ENHALT

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D. ENHALT, UNIVERSITY OF HEIDELBERG, GERMANY

MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 68(13), PP. 3753-3758, 1963, 1 FIG., 7 REFS.

TRITIUM AND DEUTERIUM MEASUREMENTS WERE MADE ON CLOSELY SPACED SAMPLES OF ATMOSPHERIC HYDROGEN COLLECTED FROM AUG. 1957 THROUGH JAN. 1958. SOME OF THE VARIATIONS IN TRITIUM CONCENTRATION WERE

ALSO SHOWN BY THE DEUTERIUM VARIATIONS. THESE VARIATIONS IN CONCENTRATION OF H-3 AND H-2 CAN BE EXPLAINED BY ADMIXTURE OF INDUSTRIAL HYDROGEN, AS SUGGESTED BY BEGEMANN AND FRIEDMAN. HOWEVER,

THERE WERE ALSO LARGE RAPID VARIATIONS IN TRITIUM CONCENTRATION THAT DID NOT CORRELATE WITH CHANGES IN DEUTERIUM, AND THESE TRITIUM PEAKS APPEAR IN SAMPLES COLLECTED IN GERMANY SEVERAL DAYS AFTER

KNOWN SOVIET H-BOMB EXPLOSIONS. TO STUDY TRITIUM PEAKS WHOSE RISE AND DECAY TIMES ARE FAIRLY RAPID IT IS NECESSARY TO HAVE SAMPLES SPACED OUT BUT A FEW DAYS APART. IT IS ALSO NECESSARY TO ANALYZE

THESE SAMPLES FOR DEUTERIUM AS WELL AS FOR TRITIUM IN ORDER TO ASSESS THE ROLE OF INDUSTRIAL CONTAMINATION. (AUTHS.)

H-3, DEUTERIUM, RADIONUCLIDES, CONCENTRATION, ATMOSPHERIC HYDROGEN, PERIODIC VARIATIONS, ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING

07019

MARTHA GERRARD

RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION.

ISOTOPES AND RADIATION TECHNOLOGY, VOL. 3, PP. 315-317, 1966, 7 REFS.

THE PURPOSES OF THE ISOTOPE PROGRAM OF PROJECT GNOME, IN WHICH A NUCLEAR EXPLOSION WAS CARRIED OUT IN A CAVITY IN A SALT DEPOSIT NEAR CARLSBAD, N. MEX., WERE TO STUDY THE DISTRIBUTION OF CM-242, AM-241, PU-239, TH-228, PO-210, TL-204, AND H-3 IN THE SALT AND THE MEANS BY WHICH THESE NUCLIDES MIGHT BE RECOVERED. IT WAS EXPECTED THAT ANY TRITIUM FORMED WOULD BE DILUTED BY WATER PRESENT,

AND ANY REACTION OF TRITIUM WITH OXIDIZING COMPONENTS IN THE MELT OR EXCHANGE WITH PROTIUM OF WATER WOULD AGGRAVATE THE RECOVERY PROBLEMS. AFTER DETONATION, LESS THAN 1% OF THE TRITIUM PRESENT WAS

FOUND AS HT, THE REST BEING AS HTO. THE NONCONDENSABLE GASES WERE DILUTED BY GASES ORIGINATING FROM THE MEDIUM ITSELF, AND RUBBLE FROM THE PARTIAL COLLAPSE OF THE CAVITY CONTRIBUTED GREATLY

TO THE AMOUNT OF STEAM RELEASED. TRITIUM PRODUCTION BY NUCLEAR EXPLOSION WOULD BE ECONOMICALLY ONLY IF THE CAVITY ATMOSPHERE COULD BE COMPLETELY RECOVERED, IF THE MEDIUM CONTAINED ONLY A MINIMUM

AMOUNT OF WATER, AND IF THE CAVITY TEMPERATURE REMAINED HIGH ENOUGH TO KEEP THE WATER IN THE GAS PHASE. A MAJOR CAVITY COLLAPSE WOULD PROBABLY PRECLUDE SUCCESSFUL TRITIUM RECOVERY.

H-3, RADIONUCLIDES, RADIOISOTOPE PRODUCTION, RECOVERY, TRITIATED WATER, UNDERGROUND NUCLEAR EXPLOSIONS, NUCLEAR EXPLOSIONS, EXPLOSIONS, SALT MEDIUM, PROJECT GNOME, DISTRIBUTION

07020

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AN ADDITIONAL MEASUREMENT OF THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN OF 1949.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 66(12), P. 4321, 1961, 6 REFS.

NOT MANY MEASUREMENTS ARE AVAILABLE FOR TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN BEFORE 1953.

THE AUTHORS REPORT AN ADDITIONAL MEASUREMENT OF A SAMPLE COLLECTED ON AUG. 4, 1949 AND MEASURED FOR TRITIUM ACTIVITY IN SEPT. 1953. THIS SAMPLE SHOWED A T/H RATIO OF APPROX. 5.7×10^{-15} , CORRECTED TO THE TIME OF COLLECTION.

H-3, RADIONUCLIDES, ATMOSPHERIC HYDROGEN, T/H RATIO

07021

WOLFGANG RÖTHER, KARL-OTTO MUENNICH, AND H. GÖRTE OESTLUND

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MIAMI, ROSENSTIEL SCHOOL OF MARINE AND ATMOSPHERIC SCIENCES, MIAMI, FLA. 33149

TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSSECS INTERCALIBRATION STATION.

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 75, PP. 7672-7675, 1970, 1 FIG., 1 TAB., 5 REFS.

NATIONAL SCIENCE FOUNDATION GRANT GA-1336.

A DETAILED TRITIUM CONCENTRATION PROFILE AT THE GEOSSECS (1969) STATION IN THE NORTH PACIFIC HAS BEEN MEASURED. FROM 0 TO 150 M VALUES ARE RELATIVELY CONSTANT AT APPROXIMATELY 23 TU AND THEN DECREASE RAPIDLY TO ABOUT 0.2 TU AT 400 M AND GREATER DEPTHS. AGREEMENT BETWEEN THE HEIDELBERG AND MIAMI LABORATORIES IS EXCELLENT. (AUTHS.)

H-3, RADIONUCLIDES, NORTH PACIFIC OCEAN, PACIFIC OCEAN, OCEANS, CONCENTRATION, DEPTH, MIXING

07022

PAUL LEYBOUS AND MICHEL VIGNEAUX

SUD-OUEST. (RESULTS OF TRITIUM ACTIVITY MEASUREMENTS OF SOME WATER OF THE SOUTHWEST.)
COMPTES RENDUS DES SEANCES DE L'ACADEMIE DES SCIENCES, PARIS, SERIE D, VOL. 261, PP. 4168-4171,
1965, 1 TAB., 5 REFS.

MEASUREMENTS OF THE H-3 ACTIVITY OF RAIN WATER, LAKE WATER, WATER LEVELS, AND VEGETABLE
WATER FURNISH INFORMATION ON THE SEASONAL STRATIFICATION OF LAKES, THE FEED MECHANISM OF SURFACE
LEVELS, AND THE EFFECT OF THE WATER LEVEL ON THE H-3 DISTRIBUTION IN SEVERAL COMMON VEGETABLES.
ONLY THE UPPER FRINGE OF WATER LEVELS NOT INFLUENCED BY H-3. (TRANSL. AUTH.)
H-3, RADIONUCLIDES, RAINWATER, WATER, LAKES, VEGETABLES, DISTRIBUTION, FRANCE

07023

W. KLOFT AND E.-P. SCHULZE
W. KLOFT, UNIVERSITY OF BONN, INSTITUTE OF APPLIED ZOOLOGY, GERMANY
VERWENDUNG VON TRITIUMIERTEM WASSER (THO) ZUR PORTLAUFENDEN REGISTRIERUNG DES TRANSPIRATIONSVERLAUFES
BEI INSEKTEN. (USE OF TRITIATED WATER FOR CONTINUOUS REGISTRATION OF INSECT TRANSPIRATION.)
ATOMKERN, VOL. 13(6), PP. 265-268, 1967, 3 FIGS., 17 REFS.

A CONTINUOUS REGISTRATION OF THE INSECT TRANSPIRATION COULD NOT BE REALIZED UNTIL NOW. APPLIED
THO MIXES WITH THE NORMAL BODY WATER AND THEREFORE IS RELEASED SIMULTANEOUSLY BY THE INSECT WHILE
TRANSPIRING. IT CAN BE CONTINUOUSLY MEASURED AND REGISTERED BY MEANS OF AN IONIZATION CHAMBER OF
100 CM(3) CAPACITY AND A VIBRATING-REED ELECTROMETER WITH RECORDER ATTACHED. TO REDUCE THE MEMORY-EFFECT
THE INTERIOR SURFACE OF THE CHAMBER IS PLATED WITH GOLD. ALL ENVIRONMENTAL FACTORS INFLUENCING
THE TRANSPIRATION OF INSECTS SUCH AS TEMPERATURE, AIR HUMIDITY AND WIND VELOCITY CAN BE VARIED
IN THE DESCRIBED APPARATUS. THIS METHOD OFFERS THE OPPORTUNITY TO FOLLOW THE COURSE OF TRANSPIRATION
QUALITATIVELY OVER A LONG PERIOD AS WELL AS TO DETECT SPONTANEOUS REGULATING EFFECTS. (NSA 21,
NO. 45555)

H-3, RADIONUCLIDES, TRITIATED WATER, INSECTS, TRANSPIRATION, BODY WATER, RADIOBIOLOGY

07024

R. KIRCHMANN, A. LAPONTAINE, J. VAN DEN HOEK, AND G. KOCH
TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTEES
AVEC DE L'EAU CONTAMINEE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK
PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.)
COMPTES RENDUS DES SEANCES DE LA SOCIETE DE BIOLOGIE ET DE SES FILIALES, VOL. 163, PP. 1459-1463,
1969, 2 FIGS., 1 TAB., 3 REFS.

THE DISTRIBUTION OF H-3 AMONG THE WATER, TOTAL DRY MATTER, FATS, CASEIN, AND LACTOSE OF MILK
FROM COWS FED CONTAMINATED WATER WAS MEASURED. TWO SERIES OF TESTS WERE MADE- THE FIRST FROM A
SINGLE INGESTION OF TRITIATED WATER AND THE OTHER FROM DAILY INGESTION. THE DISTRIBUTION OF H-3
FROM THE TWO TYPES OF INJECTION ARE TABULATED. AFTER INGESTION THE TRITIATED WATER WAS DISTRIBUTED
IN THE GENERAL WATER POOL OF THE ANIMAL. THE RESULTS SHOWED THAT, IN THE CASE OF REPEATED INGESTIONS,
THE RATIO OF THE SPECIFIC ACTIVITIES OF DRY MATTER/WATER AND FATS/WATER INCREASED WITH TIME. THIS
INDICATES THAT THE FRACTION OF THO THAT IS INCORPORATED IN THE ORGANIC COMPONENTS IS SECRETED MORE
SLOWLY THAN THAT OF THE WATER POOL OF THE BODY. (NSA 24, NO. 44406)

H-3, RADIONUCLIDES, TRITIATED WATER, TRANSFER, DISTRIBUTION, MILK, DAIRY PRODUCTS, COWS, DOMESTIC
ANIMALS, LIVESTOCK, BODY WATER, SPECIFIC ACTIVITIES, PHYSIOLOGY

07025

H. M. MITTELHAUSER AND G. THODOS
NORTHWESTERN UNIVERSITY, EVANSTON, ILL.
VAPOUR PRESSURE RELATIONSHIPS UP TO THE CRITICAL POINT OF HYDROGEN, DEUTERIUM, AND TRITIUM, AND
THEIR DIATOMIC COMBINATIONS. CRYOGENICS, VOL. 4, PP. 368-373, 1964, 5 FIGS., 5 TABS., 20 REFS.

A COMPREHENSIVE STUDY WAS MADE OF THE VAPOR PRESSURE BEHAVIOR OF HYDROGEN, DEUTERIUM, AND
TRITIUM IN THEIR DIFFERENT DIATOMIC COMBINATIONS. EXPERIMENTAL DATA WERE PLOTTED TO ESTABLISH
THE BEST VAPOR PRESSURE VALUES, FROM WHICH THE COMPLETE VAPOR PRESSURE FUNCTION BETWEEN THE TRIPLE
POINT AND THE CRITICAL POINT WAS ESTABLISHED. CALCULATIONS WERE THEN MADE OF THE CONSTANTS FOR
THOSE SUBSTANCES FOR WHICH EXPERIMENTAL DATA WERE LACKING, AND THE RESULTS ARE TABULATED. (NSA
19, NO. 23548)

H-3, RADIONUCLIDES, DEUTERIUM, HYDROGEN, GASES, VAPOR PRESSURE, COEFFICIENTS, TEMPERATURE, CONSTANTS

07026

PIERRE HUBERT, ADIREN MARCE, PHILIPPE OLIVE, AND ERIK SIWERTZ
P. HUBERT, P. OLIVE AND E. SIWERTZ, CENTRE DE RECHERCHES GEODYNAMIQUES, HAUTE-SAVOIE; A. MARCE,
BUREAU DE RECHERCHES GEOLOGIQUES AT MINIERES, LOIRET, FRANCE
ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. (TRITIUM STUDY OF THE DYNAMICS OF UNDERGROUND
WATER.)

COMPTES RENDUS HEBDOMADAIRES DES SEANCES DE L'ACADEMIE DES SCIENCES, SERIE D, SCIENCES NATURELLES,
VOL. 270, PP. 908-911, 1970, 1 FIG., 1 TAB., 13 REFS.

PRESENTS A SIMPLE MATHEMATICAL MODEL BY WHICH THE DYNAMICS OF UNDERGROUND WATERS MAY BE ACCOUNTED
FOR ON AN ANNUAL SCALE. WITH A KNOWN INPUT PROGRAM CONSISTING OF THE ISOTOPIC CHARACTERISTICS
OF THE RAINFALL WHICH CONTRIBUTES TO REPLENISHING THE WATER TABLES, THIS MODEL CAN BE USED TO DETERMINE
THE CORRESPONDING ISOTOPIC CHARACTERISTICS AT THE OUTLET OF THE DRAINAGE BASIN. THE VALIDITY OF
THE MODEL IS MEASURED BY THE AGREEMENT BETWEEN THE CALCULATED AND OBSERVED OUTPUTS. IT HAS BEEN
APPLIED TO THE RHONE, DRANSE, AND LOIRE BASINS. (NSA 24, NO. 27225)

H-3, RADIONUCLIDES, MATHEMATICAL MODELS, MODELS, TRACERS, UNDERGROUND WATER CIRCULATION, HYDROLOGY

07027

P. T. HATCH, J. A. MAZIMAS, J. J. KORANDA, AND J. R. MARTIN
UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, BIO-MEDICAL DIVISION, LIVERMORE, CALIF.
ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT.
RADIATION RESEARCH, VOL. 44, PP. 97-107, 1970, 2 FIGS., 4 TABS., 19 REFS. (ALSO U.S. AEC REPORT
UCRL-71485.)

KANGAROO RATS LIVING NEAR THE CRATER RESULTING FROM A NUCLEAR DETONATION WERE FOUND TO BE
GENERALLY TRITIATED. THE TRITIUM ACTIVITY OF BODY WATER AND TISSUES RANGED FROM 0.1 TO 0.4 MICROCI/G.
ORGANICALLY BOUND TISSUE TRITIUM HAD APPROXIMATELY THE SAME SPECIFIC ACTIVITY AS BODY WATER ($6-8 \times 10^{16}$ DPM/G HYDROGEN). THE ANIMALS APPEARED TO BE IN EQUILIBRIUM WITH THEIR FOOD SUPPLY AND
THE SOIL, IN TERMS OF TRITIUM CONCENTRATION. THE LIFETIME CHRONIC RADIATION DOSE TO ADULT ANIMALS
WAS ESTIMATED TO BE 10 RAD FROM INTERNAL H-3. ABOUT 10 RAD WAS ALSO RECEIVED FROM PERSISTENT EXTERNAL
BETA- AND GAMMA-EMITTING RADIONUCLIDES IN THE SOIL. THERE WAS NO SIGNIFICANT CONCENTRATION OF
OTHER INTERNAL RADIONUCLIDES. THE GENERALIZED TRITIUM LABELLING AND CHRONIC LOW-LEVEL RADIATION
EXPOSURE ARE OF SPECIAL INTEREST IN THESE ANIMALS. THERE WAS NO MACROSCOPIC EVIDENCE OF HARMFUL
RADIATION EFFECTS. (AUTHS.)

KANGAROO RAT, RATS, RODENTS, MAMMALS, H-3, RADIONUCLIDES, RADIATION EXPOSURE, BODY WATER, TISSUES,
SPECIFIC ACTIVITIES, RADIATION DOSAGE, NUCLEAR CRATERS, SEDAN, PLOWSHARE PROGRAM, CONCENTRATION,
BIOLOGY, DNA, HABITATS

07028

B. GONSIOR
UNIVERSITY OF HEIDELBERG, GERMANY
TRITIUM-ANSTIEG IM ATMOSPHERISCHEN WASSERSTOFF. (TRITIUM INCREASE IN ATMOSPHERIC HYDROGEN.)
NATURWISSENSCHAFTEN, VOL. 46, PP. 201-202, 1959, 1 FIG., 11 REFS.

SAMPLES OF LIQUIFIED AIR WERE OBTAINED AT REGULAR INTERVALS FROM 1956-58 AND THE HYDROGEN
SEPARATED. THE TRITIUM WAS MEASURED WITH A PROPORTIONAL COUNTER. FROM MID 1956 TO MID 1957 SAMPLES
WERE OBTAINED FROM TWO PLACES. THE VALUES OF THE TRITIUM CONTENT SHOWED TIME AND PLACE DEVIATIONS
WHICH EXCEEDED THE MAXIMUM MEASURING ERROR OF 2%. ON THE WHOLE THE INCREASE OF THE TRITIUM CONTENT
IS COMPATIBLE WITH A LINEAR INCREASE OF APPROX 5×10^{14} T.U./YR. IN MID 1958 THE TRITIUM CONTENT
WAS 2×10^{15} T.U. THE YEARLY INCREASE IN TRITIUM IN THE TROPOSPHERE WAS CALCULATED. (NSA 13,
NO. 13128)

07029

T. DINCER AND G. H. DAVIS
SOME CONSIDERATIONS ON TRITIUM DATING AND THE ESTIMATES OF TRITIUM INPUT FUNCTION.
MEMOIRES, ASSOCIATION INTERNATIONALE DES HYDROGEOLOGUES, REUNION D'ISTANBUL, VOL. 8, PP. 276-286, 1966, 5 FIGS., 3 TABS., 9 REFS. (ALSO U.S. AEC REPORT CONF-670972)

TRITIUM HAS BEEN USED DURING RECENT YEARS TO ESTIMATE THE TRANSIT AND RESIDENCE TIME OF WATER IN THE HYDROLOGIC CYCLE. EXPLANATIONS ARE GIVEN OF THE METHODS BY WHICH H-3 IS PRODUCED. THE PRINCIPLE OF H-3 DATING, AND USES OF THE H-3 METHOD IN HYDROLOGY. EVEN CONSIDERING THE COMPLEXITY OF DETERMINING H-3 INPUT DUE TO H-3 PRODUCTION BY BOTH NATURAL AND THERMONUCLEAR EXPLOSIONS, IT APPEARS THAT THE H-3 INPUT TO GROUND WATER CAN BE ACCURATELY DETERMINED IN MANY AREAS, ESPECIALLY WHEN THERE IS SOME RECORD OF THE H-3 CONTENT OF THE PRECIPITATION. IT IS CONCLUDED THAT THE H-3 METHOD IS COMPLICATED AND REQUIRES CAREFUL SAMPLING, ANALYSIS, AND INTERPRETATION, BUT THAT IT CAN YIELD VALUABLE INFORMATION ON GROUND WATER TRANSIT AND RESIDENCE TIME AS WELL AS HELPING TO ESTIMATE SOIL CHARACTERISTICS SUCH AS PERMEABILITY AND THE HYDRODYNAMIC DISPERSION COEFFICIENT. (NSA 23, NO. 449.)
H-3, RADIONUCLIDES, RADIOACTIVE AGE DETERMINATION, GROUND WATER, WATER, HYDROLOGY, CONCENTRATION, PRECIPITATION (METEOROLOGICAL), RESIDENCE TIME

07030

B. DIETRICH AND L. A. KOENIG
GESELLSCHAFT FUER KERNFORSCHUNG M.B.H., KARLSRUHE, GERMANY
RADIOLOGICAL PROTECTION PROBLEMS OF TRITIUM.
U.S. AEC REPORT NO. NP-TR-1703, 14 P., 1967, 5 TABS., 34 REFS. (TRANSL. FROM ATOMPRAXIS, VOL. 13, PP. 454-457, 1967)
AVAILABILITY- NTIS, N69-19626.

THE PROPERTIES OF TRITIUM THAT ARE IMPORTANT IN RADIOLOGICAL PROTECTION ARE DESCRIBED. THE HAZARDS FROM H-3 ARE INTERNAL SINCE IT EMITS VERY LOW ENERGY BETA PARTICLES. H-3 CAN ENTER THE BODY VIA THE LUNGS, THE SKIN, AND THE INTESTINAL TRACT. MOST FREQUENTLY H-3 IS TAKEN IN AS WATER OR WATER VAPOR. RADIOLOGICAL PROTECTION MEASUREMENT PROBLEMS ARE DESCRIBED AND THE MOST COMMON METHODS OF SOLVING THEM ARE DISCUSSED. PROTECTION FACTORS RELATIVE TO TRITIUM-CONTAINING WATER VAPOR ARE EXAMINED. THE TECHNIQUES USED AT THE KARLSRUHE RESEARCH REACTOR FOR H-3 CONTROL ARE SUMMARIZED. (NSA 23, NO. 4930)
H-3, RADIONUCLIDES, TRITIATED WATER VAPOR, GASES, RADIOLOGICAL SAFETY, RADIOLOGICAL HAZARDS, TRITIUM IN WATER

07031

ROLAND BIRON, GEORGETTE DELIBRIAS, AND JACQUES LABEYRIE
EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.)
COMPTES RENDUS HEBDOMADAIRES DES SEANCES DE L'ACADEMIE DES SCIENCES, VOL. 256, PP. 4951-4954, 1963, 2 FIGS., 8 REFS.

THE EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE WAS FOLLOWED SINCE NOVEMBER 1958. THE EVOLUTION, IDENTICAL TO THAT OBSERVED IN SWEDEN AND CANADA, SHOWS THE SEASONAL INCREASE USUALLY ATTRIBUTED TO THE INJECTION OF RADIOACTIVE DEBRIS FROM THE STRATOSPHERE INTO THE TROPOSPHERE. IT ALSO SHOWS A VARIATION IDENTICAL TO THAT OF SR-90 IN PRECIPITATION AND CONFIRMS THE EXISTENCE OF A SIMILAR MECHANISM TO EXPLAIN THE TRANSPORT OF H-3 IN THE FORM OF WATER VAPOR AND THE TRANSPORT OF FINE PARTICLES OF SR-90. (NSA 17, NO. 29144)
H-3, RADIONUCLIDES, CONCENTRATION, PRECIPITATION (METEOROLOGICAL), FRANCE, SEASONAL VARIATIONS, PERIODIC VARIATIONS, TRANSPORT, TRITIATED WATER VAPOR, TROPOSPHERE, STRATOSPHERE, SR-90

07032

BERNARD BLAVOUX AND PHILIPPE OLIVE
PREMIERS RESULTATS SUR LA TENUE EN TRITIUM DES EAUX DU LAC LEMAN. (PRIMARY RESULTS OF THE TRITIUM CONTENT OF THE WATER OF LAKE LEMAN.)
COMPTES RENDUS HEBDOMADAIRES DES SEANCES DE L'ACADEMIE DES SCIENCES, PARIS, SERIE D, VOL. 262, PP. 2445-2448, 1966, 2 FIGS., 1 TAB., 3 REFS.

RESULTS FROM A SYSTEMATIC STUDY OF THE H-3 ACTIVITY OF LAKE LEMAN SHOWED AN INCREASE OF THE MEAN ACTIVITY IN 1965, A DECREASE IN H-3 CONCENTRATIONS FROM THE SURFACE TOWARD THE BOTTOM, AND A SEASONAL EVOLUTION OF DIFFERENT LAYERS. (TRANSL. AUTH.)
H-3, RADIONUCLIDES, CONCENTRATION, LAKE GENEVA, LAKES, SEASONAL VARIATIONS, PERIODIC VARIATIONS

07033

BERNARD BOSCH, BERNARD QUEGAN, PIERRE HUBERT, ADRIEN MARCE, PHILIPPE OLIVE, AND BRIK SIWERTZ
LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.)
COMPTES RENDUS HEBDOMADAIRES DES SEANCES DE L'ACADEMIE DES SCIENCES, SER. D, VOL. 270, 1970, 2 FIGS., 1 TAB., 12 REFS.

A SET OF RATIOS WAS ESTABLISHED BETWEEN THE ANNUAL TRITIUM FALLOUT VALUES IN CANADA (MEASURED SINCE 1952) AND THOSE IN A NUMBER OF EUROPEAN STATIONS (MEASURED SINCE 1958). THE YEARLY AVERAGE OF THESE RATIOS VARIES FROM 1.0 TO 2.4. A STUDY OF THE VARIATION OF THESE RATIOS AS A FUNCTION OF TIME SHOWS THE APPEARANCE OF A HETEROGENEITY IN THE FALLOUT VALUES BETWEEN CANADA AND EUROPE AFTER EACH GROUP OF THERMONUCLEAR EXPLOSIONS. IF NO MORE LARGE THERMONUCLEAR TESTS TAKE PLACE, THE MEAN ANNUAL TRITIUM CONCENTRATIONS IN RAINFALL SHOULD TEND TOWARDS 150 TO 100 T.U. IN THE NEXT FEW YEARS. (NSA 24, NO. 20901)
H-3, RADIONUCLIDES, FALLOUT, CANADA, EUROPE, ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING, RAINFALL, PRECIPITATION (METEOROLOGICAL), CONCENTRATION

07034

T. FLORKOWSKI, B. R. PAYNE, AND G. SAUZAY
INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, AUSTRIA
INTERLABORATORY COMPARISON OF ANALYSIS OF TRITIUM IN NATURAL WATERS.
INTERNATIONAL JOURNAL OF APPLIED RADIATION AND ISOTOPES, VOL. 21, PP. 453-458, 1970, 1 FIG., 4 TABS.

THE RESULTS OF ANALYSES OF H-3 IN NATURAL WATERS MADE BY 35 LABORATORIES ARE COMPARED. THREE WATER SAMPLES IN A CONCENTRATION RANGE OF 10-250 T.U. WERE USED FOR THE INTERCOMPARISON. ANALYSES WERE EFFECTED BY LIQUID SCINTILLATION AND GAS COUNTING WITH AND WITHOUT ELECTROLYTIC ENRICHMENT. THE RESULTS FORM THE BASIS FOR CONCLUSIONS REGARDING THE OPTIMAL CONCENTRATION RANGE FOR EACH METHOD OF ASSAY. (AUTHS.)
H-3, RADIONUCLIDES, WATER, RADIOCHEMICAL ANALYSIS, LABORATORY METHODS

07035

(VAUGHAN T. BOWEN)
GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY).
WOODS HOLE, MASS., WOODS HOLE OCEANOGRAPHIC INSTITUTION, NYO-2174-87, 33 P., 1968, 1 FIG., 4 TABS.
U.S. AEC CONTRACT NO. AT(30-1)-2174.

THE COLLECTION OF SAMPLES OF SURFACE SEAWATER, PLANKTON, AND SEDIMENTS FOR ANALYSIS IN THE NORTHERN SARGASSO SEA IS DESCRIBED. THE ANALYSIS OF SUBSURFACE OCEAN WATER FOR FISSION PRODUCTS IS DISCUSSED UNDER THE FOLLOWING HEADINGS- PENETRATION OF FALLOUT SR-90 INTO DEEP WATER OF THE ATLANTIC OCEAN; PARALLEL SR-90--TRITIUM ANALYSES ON 1967 SAMPLES; ACTIVATION ANALYSES OF TRACE ELEMENTS IN OVER-OCEAN AEROSOLS; ACTIVATION ANALYSES OF STABLE ISOTOPE RATIOS; NON-LANTHANIDE TRACE ELEMENTS IN MODERN CORALS; AND EMISSION SPECTROMETRIC ANALYSES OF MARINE ROCKS AND SEDIMENTS. H-3, RADIONUCLIDES, FALLOUT, ATLANTIC OCEAN, TRACE ELEMENTS, SEA WATER, WATER, PLANKTON, SEDIMENTS, SARGASSO SEA, OCEANS, SR-90, CONCENTRATION, DEPTH, ACTIVATION ANALYSIS

TAN TAKAHASHI, MASAMI NISHIDA, SHIGERU OHNO, AND TATSUJI HAMADA
 T. TAKAHASHI, M. NISHIDA, T. HAMADA, INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH, YAMATO-MACHI,
 SAITAMA PREF.; S. OHNO, NATIONAL INSTITUTE OF RADIOLOGICAL SCIENCES, ANAGAWA, CHIBA CITY, JAPAN
 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER.
 RADIOISOTOPES (TOKYO), VOL. 18, PP. 560-583, 1969, 3 FIGS., 3 TABS., 9 REFS.
 INTERNATIONAL ATOMIC ENERGY AGENCY CONTRACT NO. 388-RB.

WINE SAMPLES BOTTLED IN EACH YEAR FROM 1952 TO 1963 EXCEPT 1953 IN KOFU AREA, YAMANASHI PREF.
 WERE ASSAYED. FROM THESE DATA, PRE-BOMB LEVEL OF TRITIUM IN JAPAN WAS ESTIMATED TO BE ABOUT 20
 T.U. WHICH SEEMS TO BE REASONABLE COMPARING WITH THE PRE-BOMB LEVEL OF TRITIUM IN CANADA (15 T.U.).
 TRITIUM CONCENTRATIONS IN PRECIPITATION IN TOKYO, KOCHI AND NIIGATA FROM OCT. 1961 TO JAN. 1969
 ARE SUMMARIZED. TRITIUM CONCENTRATIONS IN RIVER AND TAP WATER SAMPLES ARE USUALLY LOWER THAN THAT
 IN THE RAIN FALL. RESULTS ON LAKE NOJIRI SHOW VERY UNIFORM DISTRIBUTION OF TRITIUM IN THE LAKE.
 RESULTS ON GROUND WATER TAKEN FROM A WELL OF 65 M IN DEPTH AT KOMAGONE, TOKYO SUGGESTS THAT POST-
 BOMB PRECIPITATE DID NOT ENTER THE GROUND WATER UP TO 1963. TWO SAMPLES TAKEN FROM KAKITA RIVER
 AND SUISEN-EN PARK IN JULY, 1965 GAVE TRITIUM CONCENTRATIONS OF ABOUT 70 T.U.
 H-3, RADIONUCLIDES, WINE, RAINWATER, PRECIPITATION (METEOROLOGICAL), HYDROLOGY, RIVER WATER, TAP
 WATER, GROUND WATER, WELLS, SPRINGS, JAPAN, CONCENTRATION

07037

H. VON BUTTLAR AND B. WILK
 INSTITUT FÜR TECHNISCHE KERNPHYSIK DER TECHNISCHEN HOCHSCHULE, DARMSTADT, GERMANY
 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES.
 SCIENCE, VOL. 149, PP. 1371-1373, 1965, 3 FIGS., 1 TAB., 12 REFS.

A COMBINATION OF ELECTROLYSIS AND THERMAL DIFFUSION IS DESCRIBED WHICH IS CAPABLE OF MEASURING
 TRITIUM CONCENTRATIONS OF THE ORDER OF 1 T.U. TO PLUS OR MINUS 10%. A 10-M THERMAL DIFFUSION COLUMN
 ALLOWS A RECOVERY OF 99 PLUS OR MINUS 1% OF THE HYDROGEN IN 50 L OF HYDROGEN IN A FINAL VOLUME
 OF 3.8 L IN TWO DAYS. THE RESULTS ON SOME WELL-DATED ANTARCTIC SNOW SAMPLES (BETWEEN 1941 AND
 1953) ARE IN GENERAL AGREEMENT WITH PUBLISHED DATA.

H-3, RADIONUCLIDES, ELECTROLYTIC ENRICHMENT, ENRICHMENT, CONCENTRATION, SNOW, PRECIPITATION (METEOROLOGICAL),
 THERMAL DIFFUSION, RECOVERY, ANTARCTIC

07038

CHARLES L. WEAVER, ERNEST D. HARWARD, AND HAROLD T. PETERSON, JR.
 U.S. PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH
 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS.

PUBLIC HEALTH REPORTS, VOL. 84(4), PP. 363-371, 1969, 1 FIG., 5 TABS., 12 REFS.

MECHANISMS FOR THE FORMATION OF TRITIUM IN NUCLEAR REACTORS ARE DISCUSSED, AND ACTUAL TRITIUM
 CONCENTRATIONS IN REACTOR COOLANTS ARE COMPARED WITH POSTULATED PRODUCTION RATES. RESULTS OF THE
 TRITIUM SAMPLING NETWORK OF THE BUREAU OF RADIOLOGICAL HEALTH ARE DESCRIBED; TYPICAL RESULTS RANGED
 BETWEEN 2-20 NCI PER LITER OF WATER.

H-3, RADIONUCLIDES, NUCLEAR REACTORS, REACTORS, NUCLEAR POWER, WASTES, RADIOACTIVE WASTES, SURFACE
 WATER, WATER, CONCENTRATION, SAMPLING, TRITIATED WATER

07039

BRUCE L. SCHMALZ AND W. SCOTT KEYS

U.S. ATOMIC ENERGY COMMISSION, IDAHO OPERATIONS OFFICE, IDAHO FALLS, IDAHO
 RETENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING
 STATION-IDAHO.

IN- COLLOQUE INTERNATIONAL SUR LA RETENTION ET AL MIGRATION DES IONS RADIOACTIFS DANS LES SOLS.

HELD IN SACLAY, FRANCE, 16-18 OCT. 1962. GIP-SUR-YETTE, CENTRE D'ETUDES NUCLEAIRES; AND PARIS,
 PRESSES UNIVERSITAIRES. PP. 243-256, 1963, 10 FIGS., 1 TAB., 7 REFS.

AQUEOUS LIQUIDS CONTAINING MIXED FISSION AND ACTIVATION PRODUCTS PLUS TRITIUM ARE ROUTINELY
 DISCHARGED TO PONDS EXCAVATED IN ALLUVIAL REGOLITH. THE WATER AND ISOTOPES HAVE BEEN DETECTED
 IN THE REGOLITH AT DISTANCES OF 150 M FROM THE MTR-BTR DISPOSAL POND. THE WASTE HAS 55N DETECTED
 IN PERCHED WATER IN THE BASALT AT DISTANCE UP TO 1.5 KM. TRITIUM, CHROMIUM-51 AND COLBALT-60 HAVE
 BEEN OBSERVED TO BE PARTICULARLY MIGRATORY. MIGRATION OF CONTAMINATED GROUND WATER RESULTING FROM
 DISPOSAL OF WASTE AT THE NRTS IS MOST EXTENSIVELY MAPPED ON THE BASIS OF TRITIUM ANALYSES. CONCENTRATIONS
 OF 10(6) T.U. HAVE BEEN DISCOVERED AT DISTANCES OF 210 M FROM A DISPOSAL WELL. ATTENUATION OF THE
 CONCENTRATION TO 1,200 T.U. AT DISTANCES OF 5 KM FROM THE DISPOSAL POINT IS OBSERVED. ATTEMPTS
 TO TRACE CONTAMINATION IN GROUND WATER BEYOND 400 M ON THE BASIS OF ISOTOPES OTHER THAN TRITIUM
 HAVE BEEN UNSUCCESSFUL. CHEMICALLY CONTAMINATED WASTES HAVE ALSO BEEN TRACED TO A DISTANCE OF
 5 KM.

H-3, CO-60, CR-51, I-131, CE-144, RU-106, AG-110, RADIONUCLIDES, RADIOACTIVE WASTES, WASTES, HYDROLOGY,
 MIGRATION, RETENTION, REGOLITH, BASALT, WATER, GROUND WATER, RADIOACTIVE WASTE DISPOSAL, WASTE
 DISPOSAL, CONTAMINATION, NATIONAL REACTOR TESTING STATION, WELLS, AQUIPERS

07040

G. A. SHALNOVA AND V. P. ZHURAVLEV

DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE.

RADIOBIOLOGY (USSR) (ENGLISH TRANSLATION OF RADIOBIOLOGIYA), VOL. 6(6), PP. 149-156, 1966, 3 FIGS.,
 1 TAB., 16 REFS.

SINGLE INTRAPERITONEAL INJECTIONS OF TRITIUM OXIDE IN DOSES OF 0.3 AND 0.15 CI/KG (TOTAL DOSE
 400 AND 430 RAD) INDUCED A SEVERE FORM OF ACUTE RADIATION DISEASE, ENDING IN THE BATH OF THE INJURED
 DOGS; ONE OF VERY EARLY APPEARANCE AND PRONOUNCED NATURE OF THE HEMORRHAGIC SYNDROME, THE EARLY
 DEVELOPMENT OF PROGRESSIVE LYMPHOPENIA, AND THE APPEARANCE OF A LARGE NUMBER OF LYSED WHITE BLOOD
 CELLS IN THE BLOOD ON THE 21ST TO 30TH DAY AFTER THE INJURY. THE SYNTHETIC FUNCTION OF THE LIVER
 WAS IMPAIRED, AND HEMOCIRCULATORY DISORDERS OF THE KIDNEYS DEVELOPED. THE IMMUNOLOGICAL REACTIVITY
 BEGAN TO BE IMPAIRED ON THE FIRST DAY AFTER THE INJURY AND WAS NOT COMPLETELY RESTORED DURING THE
 180-DAY OBSERVATION PERIOD. TOGETHER WITH THE INHIBITION OF INFECTION RESISTANCE OF THE ORGANISM,
 THE DEVELOPMENT OF AUTOALLERGIC PROCESSES WAS DETECTED IN THE INJURED DOGS. THE DISTURBANCES OF
 THE IMMUNOLOGICAL REACTIVITY DETECTED WERE CORRELATED WITH THE CLINICAL MANIFESTATIONS OF RADIATION
 DISEASE. THE DEGREE OF EXPRESSION AND THE THREE DOGS THAT RECEIVED TRITIUM OXIDE IN A DOSE OF
 0.15 CI/KG (TOTAL DOSE 310 RAD) ALSO DIED. THE CLINICAL COURSE OF RADIATION DISEASE AFTER THE
 INJECTION OF TRITIUM OXIDE WAS CHARACTERIZED BY THE INTENSITY OF THE CHANGES DETECTED IN THE DOGS
 WERE DIRECTLY DEPENDENT UPON THE DOSE OF THE TRITIUM OXIDE ADMINISTERED.

H-3, RADIONUCLIDES, TRITIUM OXIDE, IMMUNOLOGICAL REACTIVITY, DOGS, MAMMALS, RADIATION EFFECTS,
 RADIATION DOSE, BIOLOGICAL EFFECTS, AUTO- ALLERGIC PROCESSES

07041

G. A. SHALNOVA AND V. P. ZHURAVLEV

IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION
 OF TRITIUM OXIDE IN SMALL DOSES.

RADIOBIOLOGY (USSR) (ENGLISH TRANSLATION OF RADIOBIOLOGIYA), VOL. 6(2), PP. 139-146, 1966, 4 FIGS.,
 8 REFS.

THE EFFECT OF SMALL DOSES OF TRITIUM OXIDE ON THE NATURAL IMMUNITY, CHANGE IN WEIGHT, AND
 BLOOD PICTURE OF RATS WAS OBSERVED OVER A 12-MONTH PERIOD. DISTURBANCE OF IMMUNOLOGICAL REACTIVITY,
 BLOOD PICTURE, IN THE DIRECTION OF AN INCREASE IN ITS INDICES, CHANGES IN COMPOSITION OF THE AUTOFLORA
 OF THE MUCOSA OF THE ORAL CAVITY AND THE SKIN OF THE TAIL AND INCREASES IN THE E. COLI IN THE MOUTH
 WERE OBSERVED.

H-3, RADIONUCLIDES, TRITIUM OXIDE, RATS, RODENTS, MAMMALS, BIOLOGICAL EFFECTS, IMMUNOLOGICAL REACTIVITY,
 BLOOD, ESCHERICHIA, BACTERIA, MICROORGANISMS, SKIN, RADIATION DOSE

07042

D. I. ZAKUTINSKII, Z. N. NAKHILNITSKAYA, AND I. K. PETROVICH

RADIOBIOLOGY (USSR) (ENGLISH TRANSLATION OF RADIOBIOLOGIYA), VOL. 5(2), PP. 244-245, 1965, 1 REF.
EXPERIMENTS SHOW THAT TRITIUM OXIDE INJECTIONS OF GREATER THAN ONE MICROCI/G OF BODY WEIGHT ARE ABSOLUTELY LETHAL FOR MICE. DEATH OCCURS WITHIN 11 TO 15 DAYS. AT CLOSE OF 0.5 MICROCI/G DEATH OCCURS IN 30 DAYS. THE LETHAL DOSE FOR RATS AND RABBITS IS ABOUT THE SAME AS FOR MICE. HOWEVER, DEATH OCCURS MORE RAPIDLY WITH RABBITS AND MUCH LATER WITH RATS. CHANGES IN BLOOD COMPOSITION WERE OBSERVED DEPENDING ON THE QUANTITY OF TRITIUM INTRODUCED.
TRITIUM OXIDE, RODENTS, RABBITS, RATS, MICE, MORTALITY, BIOLOGICAL EFFECTS, LETHAL DOSE, TOXICITY, MAMMALS, H-3, RADIONUCLIDES

07043

V. P. ZHURAVLEV, P. P. BUGRYSHEV, AND A. G. ISTOMINA
TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRA-PERITONEAL INJECTION.
RADIOBIOLOGY (USSR) (ENGLISH TRANSLATION OF RADIOBIOLOGIYA), VOL. 6(1), PP. 89-97, 1966, 3 FIGS., 4 TABS., 4 REFS.

DATA ARE PRESENTED ON THE TOXICITY OF TRITIUM OXIDE IN MICE, RATS, AND RABBITS. THE STUDY INDICATES THAT THE RADIOSENSITIVITY OF THESE ANIMALS DECREASES IN THE ORDER; MICE, RABBITS, AND RATS. INTRA-PERITONEAL INJECTION OF 2.4 AND 1.2 MILLICI/G OF TRITIUM OXIDE INTO RATS AND MICE, RESPECTIVELY INDUCED ACUTE RADIATION SICKNESS. THE BASIC TISSUE DOSE OF RADIATION IS RECEIVED BY RATS DURING THE FIRST TWO WEEKS AFTER INJECTION.
TRITIUM OXIDE, RODENTS, RATS, MICE, RABBITS, BIOLOGICAL EFFECTS, BIOLOGICAL HALF-LIFE, RADIATION SICKNESS, MORTALITY, HALF-LIFE, TOXICITY, TISSUES, RADIATION DOSE, MAMMALS, H-3, RADIONUCLIDES

07044

V. P. ZHURAVLEV, P. P. BUGRYSHEV, AND A. G. ISTOMINA
BIOLOGICAL EFFECT OF TRITIUM OXIDE.
IN- DISTRIBUTION OF BIOLOGICAL EFFECTS OF RADIOACTIVE ISOTOPES. BY YU. I. MOSKALEV. (TRANL. OF RASPREDELЕНИЕ I BIOLOGICHESKOE DEISTVIE RADIOAKTIVNYKH IZOTOPOV. MOSCOW, ATOMIZDAT, 1966.) U.S. ATOMIC ENERGY COMMISSION, DIVISION OF TECHNICAL INFORMATION, AEC-TR-6944(REV.). PP. 235-241, 1966, 2 FIGS., 1 TAB., 4 REFS.

THE INTERPERITONEAL INJECTION OF TRITIUM OXIDE IN DOSES OF 1.2 TO 2.4 MILLICI/G IN RATS AND MICE CAUSES DEATH OF 100% OF THE ANIMALS. SHARP CHANGES IN THE BLOOD SYSTEM AND A PERSISTENT DEPRESSION OF THE SYNTHETIC PUNCTION OF THE LIVER WERE OBSERVED. THE BULK OF THE TOTAL TISSUE DOSE IS RECEIVED BY THE RATS WITHIN THE FIRST TWO WEEKS AFTER ADMINISTRATION.
H-3, RADIONUCLIDES, TRITIUM OXIDE, RATS, MICE, MAMMALS, RODENTS, BIOLOGICAL EFFECTS, RADIATION EFFECTS, MORTALITY, LETHAL DOSE, LIVER, TOXICITY

07045

ROBERT GEORGE PATZER
RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION.
ANN ARBOR, MICH., UNIVERSITY OF MICHIGAN, PH. D. THESIS. 106 P., 1968, 13 FIGS., 10 TABS., 43 REFS.
AVAILABILITY- UNIVERSITY MICROFILMS 69-2367.

A DOSE COMMITMENT WAS DEFINED AS THE INTEGRAL RADIATION DOSE IN RADS FROM INGESTED TRITIUM OXIDE TO A TIME WHEN ESSENTIALLY ALL TRITIUM WAS EXCRETED FROM THE RATS. THE DOSE COMMITMENT FROM NON-EXCHANGEABLE TRITIUM WAS COMPARED TO THAT CALCULATED FROM ASSUMING THAT TRITIUM WAS PRESENT ONLY IN BODY WATER. A MATHEMATICAL MODEL WAS FORMULATED TO DESCRIBE NON-EXCHANGEABLE TRITIUM CONCENTRATIONS IN RAT TISSUE AS A FUNCTION OF TIME AND OF THE TRITIUM OXIDE CONCENTRATION IN BODY WATER. THE RESULTS INDICATE THAT FOR A GIVEN TRITIUM OXIDE INTAKE THERE IS AN UPPER LIMIT TO THE CONCENTRATION OF NON-EXCHANGEABLE TRITIUM WHICH MAY BE ATTAINED IN DRY TISSUE. THE APPLICABILITY OF THE MODEL AND RESULTS TO OTHER MAMMALS IS DISCUSSED.
RADIATION DOSE, H-3, RADIONUCLIDES, TRITIUM OXIDE, RATS, RODENTS, MAMMALS, CONCENTRATION, MATHEMATICAL MODELS, MODELS, TISSUES, BODY WATER, BLOOD, BONE MARROW, BRAIN, LIVER, GASTROINTESTINAL TRACT, MUSCLE, EXCRETION

07046

IVAN CHIU-SHEUNG CHOI
THE MOVEMENT OF TRITIATED WATER IN PLANTS.
AMES, IOWA, IOWA STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY, PH. D. THESIS. 144 P., 1965, 21 FIGS., 34 TABS., 56 REFS.
AVAILABILITY- UNIVERSITY MICROFILMS 65-12,466.

PHOTOSYNTHATE TRANSLLOCATION IN THE SOYBEAN WAS STUDIED USING TRITIATED WATER AS THE ONLY ISOTOPIC COMPOUND. THOUGH THE SOYBEAN PETIOLE WAS FOUND TO BE CAPABLE OF WATER EXCHANGE WITH THE SURROUNDING MOISTURE VIA THE STOMATA, THERE WAS LITTLE OR NO LOSS SINCE THE TWO WAS NEVER PRESENT AT ANY SIGNIFICANT DISTANCE FROM THE LEAFLET. TWO TRANSPORT IN EXCISED PETIOLE SECTIONS WAS STUDIED BY MEANS OF AN AGAR-DIFFUSION TECHNIQUE. THE PATTERN OF THIS TRANSPORT CAN BE BEST DESCRIBED BY THE MODEL OF TWO SELF-DIFFUSION IN A PATH 2 MM IN DIAMETER. AN ATTEMPT WAS MADE TO DISTINGUISH BETWEEN DIFFUSION AND MASS FLOW OF WATER DURING PHOTOSYNTHATE TRANSLLOCATION BY MEANS OF THE FOLLOWING MATHEMATICAL MODELS. MODEL- SELF-DIFFUSION OF TWO, USING PICK'S LAW. MODEL II- MASS FLOW, WITH WATER EXCHANGE BETWEEN THE PHLOEM AND THE SURROUNDING TISSUES.
MOVEMENT, TRITIATED WATER, PLANTS, SOYBEANS, TRANSPORT, TRANSLLOCATION, MATHEMATICAL MODELS, MODELS, TRACERS

07047

BONNARD JOHN TEBGARDEN
A STUDY OF LOW ENERGY GALACTIC COSMIC RAYS FROM 1961 TO 1965.
COLLEGE PARK, MD., UNIVERSITY OF MARYLAND, PH. D. THESIS. 120 P., 1967, 30 FIGS., 3 TABS., 77 REFS.
AVAILABILITY- UNIVERSITY MICROFILMS NO. 68-3390.
LOW ENERGY GALACTIC COSMIC RAYS (PROTON AND ALPHA PARTICLE INTENSITIES) WERE MEASURED PRINCIPALLY BY HIGH-ALTITUDE BALLOON FLIGHTS. POSSIBLE PRODUCTION OF DEUTERIUM AND TRITIUM BY COSMIC RAY INTERACTIONS IN THE EARTH'S ATMOSPHERE IS DISCUSSED.
H-3, ATMOSPHERE (TERRESTRIAL), DEUTERIUM, COSMIC RAY NEUTRONS, RADIONUCLIDES, PRODUCTION RATE, COSMIC RADIATION

07048

J. C. DROBINSKI, JR., P. J. MAGNO, AND A. S. GOLDIN
U.S. PUBLIC HEALTH SERVICE, NORTHEASTERN RADIOLOGICAL HEALTH LABORATORY, WINCHESTER, MASS.
PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE.
IN- PROCEEDINGS OF THE 1ST INTERNATIONAL CONGRESS OF RADIATION PROTECTION. W. S. SNYDER ET AL, EDS. HELD IN ROME, ITALY, 5-10 SEPTEMBER 1966. NEW YORK, PERGAMON PRESS. P. 369, 1966. (ABSTRACT) (CONF-660920)

DATA ON THE PLUTONIUM-239 CONTENT OF AIR PARTICULATES SHOW CONCENTRATIONS FROM 0.07 TO 0.44 FCI/MI(3); THE CONTENT OF THIS SAME NUCLIDE IN PRECIPITATION HAS RANGED FROM 17 TO 126 FCI/L. PLUTONIUM CONCENTRATIONS IN TOTAL DIETS HAVE RANGED FROM LESS THAN 2.0 TO 8.5 FCI/KG. IN ORGANS FROM UNEXPOSED HUMANS, THE LARGEST CONCENTRATIONS OF PLUTONIUM WERE FOUND IN LIVER AND IN LUNGS. THE CARBON-14 CONTENT OF TOTAL DIETS HAS RANGED FROM 19.0 TO 22.5 DPM/G OF CARBON, WHICH CORRESPONDS TO AN ENRICHMENT ABOVE NATURAL LEVELS OF 35 TO 60%. MT. LEVELS IN HUMAN ORGANS DO NOT SHOW ANY GREAT DIFFERENCE FROM ORGAN TO ORGAN, WITH THE POSSIBLE EXCEPTION OF A LOWER VALUE IN ADULT BRAIN. CONCENTRATIONS OF TRITIUM IN RIVER WATER HAVE RANGED UP TO 20 NCI/L, THE HIGHEST LEVELS BEING DOWNSTREAM FROM A MAJOR NUCLEAR INSTALLATION. CONCENTRATIONS OF TRITIUM IN DRINKING WATER AVERAGED ABOUT 5 NCI/L AND DATA ON MILK AND TOTAL DIETS INDICATE CONCENTRATIONS OF FROM 1 TO 5 NCI/KG. THE TRITIUM CONCENTRATION OF THE WATER FRACTIONS RESULTING FROM THE COMBUSTION OF VARIOUS HUMAN ORGANS WERE EQUIVALENT TO 0.3 TO 10 FCI/G OF WET TISSUE.
PU-239, C-14, H-3, RADIONUCLIDES, CONCENTRATION, MAN, DIETS, WATER, ORGANS, MONITORING NETWORKS

J. D. LARSON AND W. A. BEETEM
CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE
RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO.
DENVER, COLO., U.S. GEOLOGICAL SURVEY, USGS-474-87. 17 P., 1970, 2 FIGS., 6 TABS., 6 REFS.
U.S. AEC CONTRACT NO. AT(20-2)-474.

PROJECT RULISON, A FLOWSHARE PROJECT, IS AN EXPERIMENTAL STUDY TO DETERMINE THE COMMERCIAL
FEASIBILITY OF STIMULATING NATURAL GAS PRODUCTION IN THE RULISON GAS FIELD BY FRACTURING THE RESERVOIR
ROCK WITH A NUCLEAR EXPLOSION. AN INVENTORY IN THE AREA WAS MADE IN THE SPRING OF 1969 TO PROVIDE
BACKGROUND DATA ON THE QUANTITY AND QUALITY OF GROUND AND SURFACE WATERS. THE DETONATION OF THE
NUCLEAR DEVICE EMPLACED AT A DEPTH OF 8,425 FT BELOW LAND SURFACE WAS ON SEPT. 10, 1969. FOLLOWING
THE EVENT, SELECTED WELLS, SPRINGS, AND CISTERNS WERE PHYSICALLY EXAMINED (INCLUDING CHEMICAL ANALYSES
OF WATERS) TO PROVIDE BACKGROUND INFORMATION FOR EVALUATION OF POSSIBLE DAMAGE COMPLAINTS. H-3,
RADIONUCLIDES, PROJECT RULISON, FLOWSHARE PROGRAM, MONITORING, RADIOCHEMICAL ANALYSIS, WATER, STREAMS,
WELLS, SPRINGS, RESERVOIRS, SURFACE WATERS

07050

DONALD F. LOGSDON, JR., JAMES P. GREEN, AND JOHN W. HARPER
REDUCTION OF RADIATION HAZARD IN TRITIUM METHOD OF MEASURING TOTAL BODY WATER.
BROOKS AIR FORCE BASE, TEX., U.S. AIR FORCE SCHOOL OF AEROSPACE MEDICINE, AEROSPACE MEDICAL DIVISION,
SAM-TR-69-82. 7 P., 1969, 2 TABS., 4 REFS.
AVAILABILITY- AD-702-155.

THE CURRENT PROCEDURE FOR MEASUREMENT OF TOTAL BODY WATER IN VIVO USING A 250-MICROCI DOSE
OF TRITIATED WATER PRODUCES 18.98 MRADS OF TOTAL BODY RADIATION. IT WAS FOUND THAT THE AMOUNT
OF RADIATION ACTIVITY (NUMBER OF COUNTS) NECESSARY FOR USABLE TEST RESULTS COULD BE ACHIEVED AS
EFFECTIVELY BY EXTENDING THE COUNTING TIME OR INCREASING THE AMOUNT OF SERUM SAMPLED. THESE CHANGES
IN PROCEDURE ALLOWED FOR A REDUCTION IN THE TOTAL AMOUNT OF TRITIATED WATER ADMINISTERED TO 25
MICROCI. INCREASING THE COUNTING TIME REDUCED THE EXPOSURE DOSE BY A FACTOR OF 5; DOUBLING THE
SERUM SAMPLED DECREASED THE EXPOSURE DOSE BY A FACTOR OF 2; COMBINING THESE TWO PROCEDURES DECREASED
THE TOTAL BODY EXPOSURE BY A FACTOR OF 10. IF A LOWER DEGREE OF TEST ACCURACY CAN BE ACCEPTED,
THE AMOUNT OF ACTIVITY MEASURED CAN BE REDUCED AND THE DOSE OF TRITIATED WATER CORRESPONDINGLY
DECREASED. (AUTHS.)

H-3, BODY WATER, RADIOLOGICAL HAZARDS, RADIONUCLIDES, TRITIATED WATER, RADIOBIOLOGY, RADIATION
EXPOSURE, WHOLE BODY EXPOSURE, MAN

07051

U.S. PUBLIC HEALTH SERVICE. SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY.
FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969.
LAS VEGAS, NEV., U.S. PUBLIC HEALTH SERVICE, SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, ENVIRONMENTAL
SURVEILLANCE, SWRHL-95R. 26 P., 1970, 1 FIG., 4 TABS.

AIR OFF-SITE RADIOLOGICAL SAFETY PROGRAM INCLUDED OPERATING ENVIRONMENTAL SURVEILLANCE NETWORKS
OF AIR SAMPLERS, THERMOLUMINESCENT DOSIMETERS AND GAMMA-RATE RECORDERS BEFORE AND AFTER THE DETONATION,
AND FIELDING 13 RADIATION MONITORS FOR THE DETONATION. ALL SURVEILLANCE AND MONITORING RESULTS
INDICATED NO INCREASE IN RADIOACTIVITY ABOVE BACKGROUND LEVELS IN THE OFF-SITE AREA FOLLOWING THE
EVENT. DATA FOR CONCENTRATION OF H-3 IN WATER SAMPLES ARE GIVEN.
MILROW EVENT, AMCHITKA ISLAND, CONCENTRATION, H-3, RADIONUCLIDES, WATER, ENVIRONMENTAL MONITORING,
ALUTIAN ISLANDS, ALASKA, UNDERGROUND NUCLEAR EXPLOSIONS, EXPLOSIONS, NUCLEAR EXPLOSIONS

07052

U.S. PUBLIC HEALTH SERVICE. NORTHEASTERN RADIOLOGICAL HEALTH LABORATORY.
AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT.
WINCHESTER, MASS., U.S. PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, NORTHEASTERN RADIOLOGICAL
HEALTH LABORATORY, BRH/NERHL 70-3. 45 P., 1970, 11 FIGS., 14 TABS., 12 REFS.

FOUR FIELD SAMPLING STATIONS, LOCATED IN THE VICINITY OF THE PLANT PERIMETER, AND A STACK
SAMPLER SIMULTANEOUSLY MONITORED KR-85, I-129, AND H-3 (GASEOUS AND WATER VAPOR) DURING TWO DISSOLUTION
CYCLES. PARTICULATES WERE MONITORED AT THE STACK AND ONE FIELD STATION. MEASUREMENTS ARE PRESENTED
AND DISCUSSED IN TERMS OF EMISSION LEVEL VERSUS SPECIFIC PLANT OPERATIONS, PRIMARILY THE DISSOLUTION
CYCLE. IN ADDITION, OBSERVED AND THEORETICAL DILUTION FACTORS ARE COMPARED AND, BASED ON METEOROLOGICAL
CONSIDERATIONS, SHOW REASONABLE CORRELATION. THE INSTRUMENTATION USED IN THIS STUDY INCLUDES THIN-WINDOW
GEIGER DETECTORS AND FLOW-THROUGH IONIZATION CHAMBERS FOR KR-85; BUBBLERS, TRAPS, AND GRAB SAMPLERS
FOR H-3; AND RESIN TRAPS FOR I-129. CHOICE OF METHODOLOGY AND INSTRUMENTATION IS DISCUSSED WITH
EMPHASIS PLACED IN A SYSTEM USABLE IN DETERMINING DOSE TO A POPULATION IN THE PLANT VICINITY.
NUCLEAR FUEL PLANTS, ENVIRONMENTAL MONITORING, STACK EMISSIONS, H-3, I-129, KR-85, RADIONUCLIDES,
CONCENTRATION, AIRBORNE PARTICULATES, RADIOACTIVITY

07053

B. SHLEIEN
U.S. PUBLIC HEALTH SERVICE, NORTHEASTERN RADIOLOGICAL HEALTH LABORATORY, WINCHESTER, MASS.
AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL
REPROCESSING PLANT IN 1968.
ROCKVILLE, MD., U.S. PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, BRH/NERHL 70-1. 26
P., 1970, 4 TABS., 25 REFS.
AVAILABILITY- NTIS, PB-191907.

THIS REPORT ATTEMPTS, BY USE OF THE DOSE COMMITMENT CONCEPT AND SURVEILLANCE DATA PREVIOUSLY
COLLECTED, TO ESTIMATE RADIATION DOSES IN 1968 TO PERSONS IN THE VICINITY OF A FUEL REPROCESSING
PLANT FROM INGESTION AND INHALATION. THE DOSE COMMITMENT ACCRUED IN 1968 TO A HYPOTHETICAL TYPICAL
INDIVIDUAL IS NOT THOUGHT TO DIFFER SIGNIFICANTLY FROM THAT FOR THE AVERAGE ADULT POPULATION IN
THE REST OF NEW YORK STATE AND IS ATTRIBUTABLE ESSENTIALLY TO FALLOUT. THIS COMMITMENT WAS 77
MILLIREM FROM SR-90 TO THE BONE AND 1.7 MILLIREM WHOLE BODY FROM CR-137 DELIVERED OVER A 50-YR
PERIOD. ESTIMATED DOSES FROM H-3 AND KR-85 WERE NEGLIGIBLE (ABOUT 2 MILLIREM/YR).
RADIATION DOSE, NUCLEAR FUEL PLANTS, INGESTION, INHALATION, H-3, SR-90, CS-137, KR-85, RADIONUCLIDES,
CONCENTRATION, MILK, DEER, FISH, WATER, BONE, WHOLE BODY EXPOSURE, GASTROINTESTINAL TRACT, MAN,
RU-RH-106

07054

OAK RIDGE NATIONAL LABORATORY. CHEMICAL TECHNOLOGY DIVISION.
ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-4272. 300 P., 1968, FIGS., TABS., REFS.
U.S. AEC CONTRACT NO. W-7405-ENG-26.

THE BEHAVIOR OF TRITIUM (AS TRITIATED WATER) IN RECOVERING COPPER AND OIL FROM THE CHIMNEY
OF A THERMONUCLEAR DETONATION IS DISCUSSED. LABORATORY EXPERIMENTS WERE PERFORMED TO STUDY THE
BEHAVIOR OF THE TRITIATED WATER DURING SEPARATION OF THE COPPER ORE AND THE OIL (PP. 187-191 OF
THIS REPORT).

H-3, RADIONUCLIDES, TRITIATED WATER, FLOWSHARE PROGRAM, CANE, NUCLEAR CHIMNEY, RECOVER, COPPER,
METALS, OIL, LEACHING, CONCENTRATION, OIL SHALE

07055

OAK RIDGE NATIONAL LABORATORY. CHEMICAL TECHNOLOGY DIVISION.
ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1969.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-4422. 386 P., 1969, FIGS., TABS., REFS.
U.S. AEC CONTRACT NO. W-7405-ENG-26.

THE BEHAVIOR OF TRITIUM DURING THE RECOVERY OF OIL FROM SHALE FRACTURED BY A NUCLEAR DETONATION
IS DISCUSSED. LABORATORY EXPERIMENTS WERE PERFORMED TO STUDY METHODS OF SEPARATING THE OIL AND
THE TRITIUM (PP. 272-275 OF THIS REPORT).

H-3, RADIONUCLIDES, CANE, FLOWSHARE PROGRAM, OIL SHALE, CONTAMINATION, RETORTED OIL

P. J. BARRY AND W. P. MERRITT

THE PERCH LAKE EVAPORATION STUDY.
CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-3557. 16 P., 1970, 3 FIGS., 1 TAB., 2 REFS. (ALSO IN- ISOTOPE HYDROLOGY 1970, VIENNA, IAEA, PP. 139-151, STI/PUB/255)

THE PRIMARY PURPOSE OF THE PERCH LAKE PROJECT IS TO EXPLOIT THE USE OF RADIOACTIVE TRACERS IN THE STUDY OF ALL ASPECTS OF THE HYDROLOGICAL CYCLE IN A SMALL, WELL-DEFINED BASIN. WITHIN THIS BROAD OBJECTIVE A NUMBER OF INDIVIDUAL STUDIES ARE BEING CONDUCTED OF WHICH ONE, THE USE OF TRITIATED WATER VAPOR FOR THE STUDY OF EVAPORATION MECHANISMS IN A NATURAL SETTING, IS BELIEVED TO BE UNIQUE.

OTHER STUDIES INCLUDE THE DETERMINATION OF THE WATER, TRITIATED WATER, ENERGY AND TRACE ELEMENT BUDGETS OF THE LAKE OF WHICH THE FIRST THREE COMPLEMENT THE USE OF TRITIATED WATER VAPOR TO STUDY BASIC EVAPORATION MECHANISMS. RADIOACTIVE TRACERS HAVE BEEN USED PARTICULARLY FOR ESTIMATING THE GROUND WATER COMPONENTS OF THE WATER AND TRITIUM BUDGETS. GROUND WATER FLOWS PREDICTED BY THE USE OF CONVENTIONAL HYDROLOGICAL TECHNIQUES AS WELL AS VARIOUS NEW FLOW MODELS ARE BEING COMPARED WITH THE RESULTS OBTAINED USING RADIOACTIVE TRACERS. RADIOACTIVE TRACERS, TRACERS, HYDROLOGICAL CYCLING, TRITIATED WATER, VAPOR, EVAPORATION, TRITIATED WATER, H-3, RADIONUCLIDES, GROUND WATER, WATER, MOVEMENT, SURFACE WATERS

07057

ISRAEL ATOMIC ENERGY COMMISSION.

LITERATURE SURVEY ON PRODUCTION OF TRITIUM.

ISRAEL ATOMIC ENERGY COMMISSION, TECHNICAL INFORMATION DEPARTMENT, LS-58. 4 P., 1959, 29 REFS.

NO ABSTRACT.

H-3, RADIONUCLIDES, BIBLIOGRAPHY, TRITIUM PRODUCTION

07058

A. P. HULL AND J. T. GILMARTIN

1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY.

UPTON, N.Y., BROOKHAVEN NATIONAL LABORATORY, BNL-50196. 35 P., 1970, 20 FIGS., 32 TABS., 25 REFS.

MEASUREMENTS OF NATURAL BACKGROUND RADIATION LEVELS AND OF INCREMENTS ATTRIBUTABLE TO LABORATORY OPERATIONS OBTAINED ON SITE AND IN THE VICINITY OF BROOKHAVEN NATIONAL LABORATORY DURING 1966 ARE SUMMARIZED. THESE INCREMENTS INCLUDE CONTRIBUTIONS FROM THE GASEOUS AND PARTICULATE EFFLUENTS FROM THE STACK SERVING THE BROOKHAVEN GRAPHITE RESEARCH REACTOR AND THE HIGH FLUX BEAM RESEARCH REACTOR, FROM MULTICURIE FIELD GAMMA SOURCES, AND FROM THE DISCHARGE OF LOW-LEVEL LIQUID WASTES FROM THE LABORATORY'S SANITARY WASTE TREATMENT PLANT INTO THE HEADWATERS OF THE PECONIC RIVER.

DATA ARE PRESENTED FOR TRITIUM CONCENTRATIONS IN STACK EMISSIONS, RECHARGE BASINS, AND STREAM WATER SAMPLES.

ENVIRONMENTAL MONITORING, BROOKHAVEN NATIONAL LABORATORY, STACK EMISSIONS, STREAMS, RECHARGE BASINS, H-3, RADIONUCLIDES, GASES, EFFLUENTS, PARTICULATES, LIQUIDS, RADIOACTIVE WASTES, CONCENTRATION, I-131, VEGETATION

07059

TODD V. CRAWFORD

CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50790. 35 P., 1970, 24 FIGS., 2 TABS., 14 REFS.

THIS REPORT DISCUSSES MODIFICATIONS MADE TO A LARGE-CLOUD DIFFUSION CODE TO PERMIT THE CALCULATION OF EXTERNAL AND INTERNAL DOSES TO HUMANS AS A FUNCTION OF TIME AND DISTANCE DOWNWIND FOR CLOUDS FROM NUCLEAR-CRATERING APPLICATIONS. IT PRESENTS A SAMPLE CALCULATION FOR THE CLOUDS FROM A ROW CHARGE OF FIVE 170-KT THERMONUCLEAR DEVICES.

RADIATION EXPOSURE, EXTERNAL DOSE, INTERNAL DOSE, RADIATION DOSE, NUCLEAR CLOUDS, NUCLEAR EXPLOSIONS, CRATERING, DEPOSITION, RADIONUCLIDES, H-3, SR-89, RU-106, I-131, CS-137, TE-132, CS-136, NA-24, P-32, SC-46, NM-56, W-181, W-185, W-187, PB-203, HG-203, MAN, FOOD-CHAINS, DOSE ESTIMATION

07060

V. P. ZHURAVLEV, N. S. KALYAZINA, V. S. KALISTRATOVA, V. P. KRYUK, G. A. SHAL'NOVA, T. D. KUZ'MINA, L. I. KODOLOVA, AND D. A. KAZBHOVA

MINISTRY OF HEALTH OF THE USSR, INSTITUTE OF BIOPHYSICS, MOSCOW, USSR

BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS.

RADIOBIOLOGY (USSR) (ENGLISH TRANSLATION OF RADIOBIOLOGIYA), VOL. 9(3), PP. 169-171, 1969

THE WORK PRESENTS DATA ON THE CLINICAL PICTURE OF INJURY OF DOGS BY TRITIUM OXIDE. A LEADING PLACE IN THE BIOLOGICAL EFFECTS ON THE ORGANISM IS OCCUPIED BY CHANGES IN THE BLOOD SYSTEM, WHICH ARE CHARACTERIZED BY AN INHIBITION OF LEUKO- AND ERYTHROPOIESIS. PRO- NOUNCED CHANGES IN THE FAT AND CARBOHYDRATE METABOLISM AND A DECREASE IN THE SYNTHETIC FUNCTION OF THE LIVER ARE DETECTED IN THE ANIMALS. AN INHIBITION OF THE IMMUNOLOGICAL REACTIVITY WAS NOTED AMONG ALL THE ANIMALS.

THE ELIMINATION OF TRITIUM OXIDE FROM THE ORGANISM PROCEEDS MOST INTENSIVELY (UP TO 90% OF ALL THE ACTIVITY INTRODUCED) DURING THE FIRST FIVE TO SEVEN DAYS. (AUTHS.)

TRITIUM OXIDE, RADIATION EFFECTS, TOXICITY, BIOLOGICAL EFFECTS, DOGS, METABOLISM, BIOLOGICAL HALF-LIFE, MAMMALS, HALF-LIFE, EXCRETION

07061

C. B. WILSON, ED.

EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968.

RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, BNWL-1341. 80 P., 1970, 22 FIGS., 17 TABS., 40 REFS.

EVALUATION OF THE COMBINED OFFSITE EFFECTS OF ALL RADIOACTIVE WASTE RELEASES DURING 1968 SHOWED THAT CONCENTRATIONS OF RADIONUCLIDES IN THE ENVIRONS AND RADIATION DOSES RECEIVED BY NEARBY POPULATION GROUPS WERE WELL WITHIN ACCEPTED STANDARDS. DOSES WERE ESTIMATED FOR THE WHOLE BODY, GASTROINTESTINAL-TRACT, AND THYROID AS IN PREVIOUS YEARS AND, FOR THE FIRST TIME, THE ANNUAL INTAKE OF BONE-SEEKING RADIONUCLIDES WAS ALSO EXPRESSED IN TERMS OF DOSE TO SKELETAL BONE. THE POPULATION CONSIDERED INCLUDED THE MAXIMUM INDIVIDUAL, THE AVERAGE RICHLAND RESIDENT, AND THE TYPICAL RICHLAND RESIDENT. POPULATION DOSE ESTIMATES WERE LESS THAN ONE-TENTH OF THE APPROPRIATE STANDARDS EXCEPT FOR THE SKELETAL BONE OF THE MAXIMUM INDIVIDUAL (17% OF THE 1500 MREM/YEAR STANDARD) AND FOR THE THYROID OF THE INFANT TYPICAL RICHLAND RESIDENT (11% OF THE 500 MREM/YEAR STANDARD). A SINGLE RADIONUCLIDE, P-32, CONTRIBUTED 96% OF THE ESTIMATED SKELETAL BONE DOSE RECEIVED BY THE MAXIMUM INDIVIDUAL WITH COLUMBIA RIVER FISH THE MAJOR SOURCE OF INTAKE.

CR-51, CS-137, CU-64, I-131, MN-56, NA-24, P-32, RU-106, SC-46, SI-31, SR-90, ZN-65, H-3, ATMOSPHERE (TERRESTRIAL), COLUMBIA RIVER, CONCENTRATION GUIDES, FISH, FOODS, MILK, RADIOACTIVITY, RADIONUCLIDES, TRITIUM OXIDE, HANFORD PROJECT, RIVERS, ENVIRONMENTAL MONITORING, RADIATION DOSE, DOSE ESTIMATION, GROUND WATER, WATER, FALLOUT, ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING, RADIOACTIVE WASTES

07062

THEODORUS H. HUFEN, ROBERT A. DUCE, AND L. STEPHEN LAU

SOME MEASUREMENTS OF TRITIUM CONTENT IN THE NATURAL WATER OF SOUTHERN OAHU, HAWAII.

HONOLULU, HI, UNIVERSITY OF HAWAII, WATER RESOURCES RESEARCH CENTER, TECHNICAL REPORT NO. 34. 36 P., 1969, 9 FIGS., 4 TABS., 11 REFS.

AVAILABILITY- CPSTI PB-189-406.

ANALYSES WERE MADE OF THE TRITIUM CONTENT OF SAMPLES FROM VARIOUS SOURCES OF SURFACE AND SUBSURFACE WATERS OF THE ISLAND OF OAHU. TWENTY RAINWATER SAMPLES COLLECTED FROM VARIOUS RAIN GAGES LOCATED ON THE KOOLAU RANGE OVER A PERIOD OF FOUR MONTHS SHOWED AN ACTIVITY BETWEEN 16.3 AND 28.2 T.U.

SAMPLES FROM FOUR STREAMS IN THE PEARL HARBOR AREA RANGED FROM 14.5 TO 21.3 T.U., WHILE SAMPLES FROM TWO SPRINGS AND FIVE WELLS IN THIS SAME AREA ALL SHOWED AN ACTIVITY BELOW 5 T.U.

THE INSTRUMENTATION CONSISTED OF AN ELECTROLYSIS ENRICHMENT APPARATUS, A VACUUM DISTILLATION UNIT AND A LIQUID SCINTILLATION COUNTER. A DETAILED DESCRIPTION IS GIVEN OF THE VARIOUS PARTS OF THE ELECTROLYSIS APPARATUS AND THE VACUUM DISTILLATION UNIT. BOTH THE ENRICHMENT AND COUNTING PROCEDURES ARE REVIEWED AS WELL AS THE CALIBRATION OF THESE SYSTEMS. (AUTH.)

HAWAII, TRITIATED WATER, ELECTROLYTIC ENRICHMENT, LIQUID SCINTILLATION COUNTING

07063

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CAMBRIDGE, MASS.

HAZARDS OF TRITIUM FROM CONTROLLED FUSION.

HEALTH PHYSICS, VOL. 18., PP. 439-440, 1970, 7 REFS.

U.S. AEC CONTRACT NO. AT(30-1)-3980.

CALCULATIONS OF TRITIUM LEVELS WHICH COULD BE PRODUCED IN THE ENVIRONMENT IF ALL THE WORLD'S POWER WERE PRODUCED BY NUCLEAR FUSION ARE GIVEN. THE FIGURES ARE DISCUSSED IN RELATION TO THE PERMISSIBLE DOSE LEVELS ACCORDING TO THE INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION AND THE CONCLUSION IS REACHED THAT NO HAZARDS WOULD EXIST. (NSA 24, NO. 27565)
H-3, RADIONUCLIDES, RADIOLOGICAL HAZARDS, NUCLEAR POWER

07064

ADRIAN D. LEBLANC, PHILIP C. JOHNSON, AND BILLY C. PERKINS

A. D. LEBLANC AND P. C. JOHNSON, BAYLOR COLLEGE OF MEDICINE, HOUSTON, TEX.; B. C. PERKINS, METHODIST HOSPITAL, HOUSTON, TEX.

RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE.

HEALTH PHYSICS, VOL. 18(1), PP. 78-80, 1970, 2 TABS., 3 REFS.

DURING THE DETERMINATION OF ALDOSTERONE EXCRETORY RATES BY DOUBLE ISOTOPE DERIVATIVE PROCEDURES, VOLATILIZATION OF H-3 COMPOUNDS CAN PRODUCE TROUBLESOME LABORATORY AND PERSONNEL CONTAMINATION. VAPORIZATION OF RADIOACTIVITY, PRESUMABLY AS ACETIC ACID, DURING THE EVAPORATION OF THE DICHLOROMETHANE FRACTION SEEMS THE MOST LIKELY CAUSE OF LAB CONTAMINATION. A LABORATORY HOOD WITH AN ADEQUATE FLOW CAN LARGELY ELIMINATE THIS CONTAMINATION. TRITIATED ACETIC ACID ABSORBED THROUGH THE SKIN IS EXCRETED WITH MULTIPLE HALF TIMES MAKING ESTIMATION OF ABSORBED DOSE DIFFICULT.

H-3, RADIONUCLIDES, TRITIATED ACETIC ACID, TRITIATED COMPOUNDS, VOLATILIZATION, CONTAMINATION, RADIATION EXPOSURE, ABSORPTION, SKIN, ALDOSTERONE, MAN

07065

R. SHER

HALF-LIVES OF H-3 AND PU-238.

UPTON, N.Y., BROOKHAVEN NATIONAL LABORATORY, BNL-50233. 6 P., 1970, 9 REFS.

MEASUREMENTS OF THE RADIOACTIVE HALF-LIVES OF H-3 AND PU-238 ARE REVIEWED, AND RECOMMENDED VALUES GIVEN.

H-3, PU-238, HALF-LIFE, RADIOACTIVE DECAY

07066

K. A. VESSELOVSKAYA, R. M. LYUBIMOVA-GERASIMOVA, AND V. P. ZHURAVLEV

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THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE.

RADIOBIOLOGY (USSR) (ENGLISH TRANSLATION OF RADIOBIOLOGIYA), VOL. 7(4), PP. 57-64, 1968, 2 FIGS., 7 REFS.

TRITIUM OXIDE WAS ADMINISTERED INTRAPERITONEALLY TO RATS IN DOSES OF 0.3 AND 0.08 MILLCI/G OF BODY WEIGHT. THE ARTERIAL BLOOD PRESSURE INCREASED RAPIDLY; THE PULSE AND RESPIRATION RATES WERE PRACTICALLY UNCHANGED. IN THE FIRST FOUR DAYS AFTER ADMINISTRATION OF A 0.3 DOSE THE THRESHOLD AND TIME OF REFLEX ACTION WERE REDUCED, INDICATING A BRIEF CHANGE OF THE FUNCTIONAL STATE OF THE NERVOUS SYSTEM; A SUBACUTE INJURY DEVELOPED, WITH WELL-MARKED CHANGES IN THE BLOOD AND LIVER FUNCTION. A 0.08 DOSE CAUSED A MILD INJURY. A DOSE OF 1.1 MILLCI/G CAUSED MARKED HYPOTONIA WHICH DEVELOPED IN 8-10 MONTHS. (AUTHS.)

TRITIUM OXIDE, RODENTS, RADIATION EFFECTS, BLOOD PRESSURE, LIVER, HYPOTONIA, TOXICITY, NERVOUS SYSTEM, RESPIRATION RATE, PULSE, METABOLISM, BIOLOGICAL EFFECTS, BIOLOGICAL HALF-LIFE, MORTALITY, HALF-LIFE, RADIATION DOSE, H-3, RADIONUCLIDES

07067

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TRANSFER OF TRITIUM OXIDE FROM MOTHER TO FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE.

RADIOBIOLOGY (USSR) (ENGLISH TRANSLATION OF RADIOBIOLOGIYA), VOL. 8(6), PP. 102-107, 1969, 2 TABS., 11 REFS.

TRITIUM OXIDE IN A DOSE OF 0.3 MICROCI/G, ADMINISTERED TO FEMALE RATS ON THE FIRST DAY OF PREGNANCY, CREATES A SUMMARY TISSUE DOSE IN THE BODY OF THE FEMALE EQUAL TO 305 RAD DURING THE PERIOD OF PREGNANCY. THIS DOSE IS NOT ABSOLUTELY STERILIZING ALTHOUGH IN SOME OF THE FEMALE RATS PREGNANCY WAS TERMINATED AS A RESULT OF DEATH OF ALL THE EMBRYOS. THE SUMMARY TISSUE DOSE OF 412 RAD, RECEIVED BY THE FETUS, PROVED TO BE 36% HIGHER THAN THAT RECEIVED BY THE MOTHER. THE TRITIUM OXIDE CONTENT IN THE WATER EXTRACTED FROM THE FETUS, PLACENTA, AND UTERUS PROVED TO BE THE SAME AS IN THE WATER OF THE OTHER ORGANO-- 1.6×10^{-6} CI/ML. THE TRITIUM CONCENTRATION IN THE DRY RESIDUE OF THE TISSUES OF THE FETUS WAS TWO TO THREE TIMES LOWER THAN IN THE DRY RESIDUE OF THE SOFT TISSUES OF THE FEMALE. (AUTHS.)

TRITIUM OXIDE, H-3, RADIONUCLIDES, TRANSFER, FETUS, RATS, RODENTS, RADIATION EFFECTS, RADIATION DOSE, TISSUES, MAMMALS

07068

G. A. SHALANOVA, V. P. ZHURAVLEV, AND T. D. KUZMINA

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STATE OF AUTOINFECTION RESISTANCE IN MICE TREATED WITH TRITIUM OXIDE.

RADIOBIOLOGY (USSR) (ENGLISH TRANSLATION OF RADIOBIOLOGIYA), VOL. 8(6), PP. 121-126, 1969, 2 FIGS., 1 TAB., 8 REFS.

THE INFLUENCE OF A SINGLE INTRAPERITONEAL INJECTION OF TRITIUM OXIDE (0.3, 0.15, AND 0.08 MICROCI/G) WAS STUDIED IN EXPERIMENTS ON 104 MICE. ACUTE RADIATION SICKNESS, ACCOMPANIED BY A DROP IN WEIGHT AND DISTURBANCES OF THE HEMATOLOGICAL INDICES, DEVELOPED IN THE MICE. AMONG THE TREATED MICE, THE NUMBER OF MICROBES OF THE AUTOFLORA, MOST OF WHICH ARE HEMOLYTIC, WAS INCREASED IN COMPARISON WITH INTACT MICE. IN ADDITION, GENERALIZATION OF ENDOGENOUS INFECTION (THE APPEARANCE OF MICROBES OF THE AUTOFLORA IN THE INTERNAL ORGANS) WAS OBSERVED. (AUTHS.) TRITIUM OXIDE, H-3, RADIONUCLIDES, MICE, MAMMALS, RODENTS, RADIATION SICKNESS, RADIATION EFFECTS, MICROORGANISMS

07069

JERRY R. KLINE, CARL F. JORDAN, AND GEORGE E. DREWRY

THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967.

MAYAGUEZ, P.R., PUERTO RICO NUCLEAR CENTER, PRNC-103. 201 P., 1968, FIGS., TABS., REFS.

U.S. AEC CONTRACT NO. AT(40-1)-1833.

ON FEBRUARY 14, 1967, 20 MCI OF TRITIATED WATER DILUTED TO 1 LITER WITH RAIN WATER WAS APPLIED TO A LYSIMETER SOIL PLOT. MAXIMUM TRITIUM CONCENTRATION INTO THE ATMOSPHERE WAS COMPLETED WITHIN 5 HRS OF APPLICATION. IT CONTINUED TO DIFFUSE INTO THE ATMOSPHERE AT VERY LOW CONSTANT LEVELS.

QUANTITY LOST BY VAPOR WAS UNDETERMINED, BUT 1.3% WAS COLLECTED IN RUNOFF AFTER 1 MONTH AND 11.9% COLLECTED IN 2 LYSIMETERS AFTER 6 WEEKS INDICATING THAT A BULK OF THE TRITIUM REMAINED IN THE SOIL PROFILE. AFTER 4 MONTHS AND 50 CM OF RAIN, SPECIFIC ACTIVITY OF SOIL WATER REMAINED HIGH. IT IS INDICATED THAT TRITIUM MOVED THROUGH THE PROFILE IN A RATHER BROAD AND DIFFUSE FRONT, AND THAT IT IS UNLIKELY THAT IT CAN BE PLUSHED FROM AN ENVIRONMENT ONCE CONTAMINATED.

H-3, RADIONUCLIDES, TRITIATED WATER, EVAPORATION, RUNOFF, SPECIFIC ACTIVITIES, SOIL MOISTURE, MOVEMENT, RAINFORESTS, FORESTS, PUERTO RICO, SOILS, RESIDENCE TIME

HELEN O. WOODARD

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THE BIOLOGICAL EFFECTS OF TRITIUM.

U.S. ATOMIC ENERGY COMMISSION, HEALTH AND SAFETY LABORATORY, HASL-229. 51 P., 1970, 2 FIGS., 1 TAB., 71 REFS.

REVIEWS IN A GENERAL FASHION THE PHYSIOCHEMISTRY OF TRITIUM, SOURCES, AND EXPERIMENTAL APPLICATIONS.

A MORE SPECIFIC DISCUSSION IS GIVEN ON 1) UPTAKE AND LOSS OF TRITIATED WATER, 2) INCORPORATION OF TRITIUM FROM HTO INTO BODY COMPONENTS, 3) MODEL FOR COMPUTING THE RADIATION DOSE DUE TO ACUTE ACQUISITION OF TRITIUM AS HTO BY MAN, 4) NATURE OF THE BIOLOGICAL EFFECTS OF TRITIUM, 5) MECHANISM OF THE BIOLOGICAL EFFECTS OF TRITIUM, AND 6) SUGGESTIONS FOR FURTHER STUDY WHICH EMPHASIZES GENETIC AND INHALATION STUDIES.

H-3, RADIONUCLIDES, BIOLOGICAL EFFECTS, UPTAKE, TRITIATED WATER, RADIATION DOSE, MODELS, TISSUES, MAN, RADIOLOGICAL HAZARDS, INHALATION, TRITIUM GAS, ANIMALS, REVIEW

07071

C. T. PREVO AND V. C. SANTOMASSIMO

INSTRUMENTATION FOR MONITORING OF KR-85 AND H-3 IN NATURAL GAS.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50882. 12 P., 1970, 9 FIGS., 1 TAB., 1 REF.

A SYSTEM USING CAP(SUB 2) (EU) CRYSTALS TO MONITOR NATURAL GAS FROM NUCLEARLY STIMULATED GAS WELLS FOR H-3 AND KR-85 IS DESCRIBED. ON-LINE MONITORING IS PROVIDED WITH SENSITIVITIES OF 1.3×10^{-7} MICROCI/CM(3) IN 20 MIN FOR KR-85 AND 2×10^{-5} MICROCI/CM(3) IN 20 MIN FOR H-3. (AUTHS.) MONITORING, KR-85, H-3, RADIONUCLIDES, INSTRUMENTS, NATURAL GAS

07072

JOHN E. MOUNTAIN AND JAMES H. LEONARD.

TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR.

CINCINNATI, OHIO, UNIVERSITY OF CINCINNATI, NUCLEAR SCIENCE AND ENGINEERING. 107 P., 1970, 18 FIGS., 13 TABS., 20 REFS.

TRITIUM PRODUCTION DURING THE INITIAL FUELING CYCLE OF THE SAN ONOPRE AND CONNECTICUT YANKEE REACTORS FROM TERNARY FISSION AND FROM BORON AND LITHIUM COOLANT ADDITIVES WAS EVALUATED. PRODUCTION OF TRITIUM WAS EVALUATED AS A FUNCTION OF VARIOUS PARAMETERS WHICH AFFECT THE REMOVAL RATE OF LI-7 FROM THE COOLANT. THE RELATIVE CONTRIBUTION OF EACH TRITIUM-PRODUCING REACTION WAS OBTAINED, AS WELL AS THE RELATIVE TRITIUM ACTIVITY PRODUCED BY EACH REACTION IN THE CORE AND REFLECTOR. TRITIUM RELEASE DATA FOR CONNECTICUT YANKEE WERE COMPARED TO THE TRITIUM ACTIVITY CALCULATED FOR THE BORON AND LITHIUM NEUTRON REACTIONS. IT WAS FOUND THAT THE TRITIUM PRODUCED FROM THE BORON AND LITHIUM COOLANT ADDITIVES IN CONNECTICUT YANKEE COULD ACCOUNT FOR ONLY ABOUT ONE-THIRD OF THE TOTAL TRITIUM ACTIVITY WHICH HAS BEEN RELEASED TO THE ENVIRONMENT FROM THIS REACTOR IN THE FIRST 15 MONTHS OF ITS OPERATION. IF THE DIFFERENTIAL ACTIVITY IS ATTRIBUTED ENTIRELY TO ESCAPE OF FISSION-PRODUCT TRITIUM FROM THE STAINLESS STEEL CLAD FUEL ELEMENTS, AN EFFECTIVE TRITIUM FUEL RELEASE FRACTION OF APPROX. 16% WOULD BE REQUIRED, BASED ON THE MOST RECENTLY ESTIMATED TERNARY FISSION YIELD DATA. H-3, LI-7, RADIONUCLIDES, NUCLEAR REACTORS, COOLANT ADDITIVES, SAN ONOPRE REACTOR, CONNECTICUT YANKEE REACTOR, COMPUTER PROGRAMS, SIMULATION, EFFLUENTS

07073

JOHN T. TAPPAN AND JERRY J. LORENZ

CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE RADIOLOGICAL SAFETY REPORT.

MERCURY, NEV., REYNOLDS ELECTRICAL AND ENGINEERING CO., INC., U.S. AEC REPORT NO. NVO-410-2. 30 P., 1969, 18 FIGS.

U.S. AEC CONTRACT NO. AT(26-1)-410.

THE OBJECTIVE OF THE CARLSBAD ROLL-UP PROGRAM WAS TO REMOVE AND DISPOSE OF ALL SURFACE CONTAMINATION TO WHATEVER DEPTH IT WAS IN EXCESS OF 0.1 MR/HR. AT THE END OF THE PROGRAM, NO CONTACT SURFACE CONTAMINATION WAS DETECTED IN EXCESS OF THE ESTABLISHED LIMIT OF 0.1 MR/HR. DURING A CRITICAL EVALUATION OF THE PROGRAM BY THE RADIOLOGICAL SCIENCES DEPARTMENT, IT WAS DECIDED THAT SUBSURFACE CONTAMINATION MIGHT BE PRESENT IN THE SALT MICH PILE. THE PILE WAS DETERMINE THE DEGREE OF POSSIBLE CONTAMINATION. THE PROCEDURES AND RESULTS OF THIS INVESTIGATION ARE DISCLOSED. CARLSBAD ROLL-UP PROGRAM, PLOWSHARE PROGRAM, CONTAMINATION, SOIL CONTAMINATION, H-3, RADIONUCLIDES, DECONTAMINATION, NEW MEXICO, RADIOACTIVE WASTES

07074

R. S. CAMBRAY, E.M.R. FISHER, W. L. BROOKS, AND D. H. PEIRSON

RADIOACTIVE FALLOUT IN AIR AND RAIN- RESULTS TO THE MIDDLE OF 1969.

HARWELL, ENGLAND, UNITED KINGDOM ATOMIC ENERGY AUTHORITY, HEALTH PHYSICS AND MEDICAL DIVISION, AERE-R-6212. 55 P., 1969, 6 FIGS., 28 TABS., 32 REFS.

CONCENTRATIONS OF TRITIUM IN RAINWATER ARE REPORTED FOR THE FIRST TIME (1969). DATA ARE GIVEN FOR MONTHLY INTERVALS, 1966 THROUGH 1969, FOR UNITED KINGDOM STATIONS AT MILFORD HAVEN, ORFORDNESS, AND BSKDALEMUIR. A MAXIMUM VALUE OF 878 T.U. WAS REPORTED IN JUNE 1966 AT ORFORDNESS STATION. H-3, RADIONUCLIDES, RAIN WATER, UNITED KINGDOM, FALLOUT, CS-137, SR-90, DEPOSITION, CONCENTRATION, MONITORING, PERIODIC VARIATIONS

07075

MONSANTO RESEARCH CORPORATION. MOUND LABORATORY.

ENVIRONMENTAL MONITORING REPORT- JANUARY-JUNE 1970.

MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1784. 36 P., 1971, 8 FIGS., 9 TABS.

AVAILABILITY- NTIS.

U.S. AEC CONTRACT NO. AT-33-1-GEN-53.

THE AVERAGE CONCENTRATIONS OF POLONIUM-210, PLUTONIUM-238 AND TRITIUM DETECTED IN THE ENVIRONMENT SURROUNDING MOUND LABORATORY ARE PRESENTED AND WELL WITHIN THE STRINGENT STANDARDS ADOPTED BY THE ATOMIC ENERGY COMMISSION.

PU-210, PU-238, H-3, RADIONUCLIDES, CONCENTRATION, GREAT MIAMI RIVER, RIVERS, ENVIRONMENTAL MONITORING, MOUND LABORATORY, TRITIUM OXIDE, MONITORING

07076

DONALD O. NELLIS, EMMETT L. HUDSPETH, IRA L. MORGAN, PATRICIA S. BUCHANAN, AND RICHARD P. BOGGS

D. O. NELLIS, TEXAS NUCLEAR CORP., AUSTIN, TEX.

TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION.

U.S. PUBLIC HEALTH SERVICE PUBLICATION NO. 999-RH-29. VIII, 47 P., 1967, 15 FIGS., 5 TABS., 8 REFS.

RESULTS OF A STUDY TO INVESTIGATE THE RADIOLOGICAL HEALTH HAZARDS ASSOCIATED WITH THE USE OF TRITIUM-METALLIC TARGETS IN PARTICLE ACCELERATORS, ESPECIALLY COCKCRAFT-WALTON NEUTRON GENERATORS, ARE DESCRIBED. DATA INDICATED THAT BOMBARDMENT OF TRITIUM TARGETS RESULTS IN A LOSS OF ABOUT 1 TRITIUM ATOM FOR EACH BOMBARDING DEUTERON, AND THAT MOST OF THE TRITIUM IS IN A GASEOUS FORM WHEN IT LEAVES THE TARGET. IT WAS ALSO DETERMINED THAT A RELATIVELY SMALL AMOUNT OF THE TRITIUM RELEASED FROM THE TARGET ACTUALLY REMAINS WITHIN THE ACCELERATOR ITSELF. MOST OF THE TRITIUM LOST IS TRAPPED IN THE ELEMENTS OF AN ION PUMP OR RELEASED THROUGH THE VACUUM SYSTEM EXHAUST. H-3, HEALTH HAZARDS, HAZARDS, RADIOLOGICAL HAZARDS, CONTAMINATION, RADIONUCLIDES, PARTICLE ACCELERATORS

07077

INTERNATIONAL ATOMIC ENERGY AGENCY

ENVIRONMENTAL ISOTOPE DATA NO. 1- WORLD SURVEY OF ISOTOPE CON- CENTRATION IN PRECIPITATION (1953-1963).

VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. XVIII, 421 P., 1969, FIGS., TABS., REFS. (TECHNICAL REPORT SERIES NO. 96, STI/DOC/10/96)

ENVIRONMENTAL ISOTOPE (TRITIUM, DEUTERIUM, AND OXYGEN-18) CONCENTRATIONS IN MONTHLY SAMPLES OF PRECIPITATION TAKEN BY A GLOBAL NETWORK OF 155 STATIONS IN THE PERIOD 1953-1963 ARE TABULATED.

SELECTED METEOROLOGICAL DATA (AMOUNT OF PRECIPITATION, VAPOR PRESSURE, AND TEMPERATURE) ARE PRESENTED. CONTENTS INCLUDE DATA PRINTOUTS, NUMERICAL STATION INDEX, ALPHABETICAL STATION INDEX, AND H-3 LABORATORY CODE NUMBERS.

H-3, DEUTERIUM, O-18, RADIONUCLIDES, CONCENTRATIONS, PRECIPITATION (METEOROLOGICAL), VAPOR PRESSURE, AIR TEMPERATURE, GLOBAL NETWORK, MONITORING

07078

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MAX-PLANCK-INSTITUT FUER CHEMIE, MAINZ, GERMANY

TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 1, 1960--OCTOBER 31, 1961.

MAINZ, GERMANY, MAX-PLANCK-INSTITUT FUER CHEMIE, APCRL-62-295. 13 P., 1961, 3 FIGS., 2 TABS., 11 REFS.

METHODS ARE OUTLINED FOR DETERMINING TRITIUM IN ATMOSPHERIC HYDROGEN AND METHANE. RESULTS ARE LISTED FOR SEVERAL SAMPLES. A VACUUM SYSTEM WAS SET UP FOR THE EXTRACTION OF RARE GASES FROM METEORITES. (NSA 17, NO. 5947)

H-3, RADIONUCLIDES, ATMOSPHERIC HYDROGEN, ATMOSPHERIC METHANE, T/H RATIO

07079

G. C. BUTLER AND P. J. BARRY

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER, ONTARIO, CANADA

EXPERIENCE WITH DILUTION RATE FACTORS FROM AECL REACTOR STACK.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., AECL-1518. 18 P., 1962, 2 FIGS., 3 TABS., 9 REFS.

THE TOTAL DEPOSITION OF TRITIUM OXIDE IN THE WINTER'S SNOWFALL WAS MEASURED AT 32 LOCATIONS AROUND THE AECL PLANT AREA. THE HIGHEST SPECIFIC ACTIVITY IN SNOW WAS FOUND CLOSE TO THE BASE OF THE AECL REACTOR STACK WHICH PROBABLY RESULTED FROM THE ESCAPE OF STACK AIR FROM A SERVICE DOOR.

AT GREATER DISTANCES FROM THE STACK, ELEVATED LEVELS WERE FOUND WHICH SHOWED A REGULAR DECREASE WITH DISTANCE. MAXIMUM ACTIVITY FOUND WAS 252 COUNTS/MIN/G.

H-3, RADIONUCLIDES, SNOW, PRECIPITATION (METEOROLOGICAL), TRITIUM OXIDE, SPECIFIC ACTIVITIES, DILUTION RATE FACTORS, NUCLEAR REACTORS, CANADA

07080

JERRY J. COHEN

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

PURGING OF NUCLEAR CHIMNEYS.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCID-15259. 18 P., 1967, 7 FIGS., 1 TAB., 2 REFS.

CONTAINED UNDERGROUND THERMONUCLEAR DETONATIONS CAN RESULT IN THE RETENTION OF LARGE QUANTITIES OF RADIOACTIVE GASEOUS CONTAMINANTS IN THE NUCLEAR CHIMNEY, NOTABLY KR-85 AND TRITIUM. PRIOR TO USING NUCLEAR CHIMNEYS FOR PRACTICAL APPLICATIONS SUCH AS THE KETCH PROJECT FOR STORAGE OF NATURAL GAS, THEY MUST BE PURGED OF THESE CONTAMINANTS TO AS GREAT AN EXTENT AS POSSIBLE. WHERE ONLY ONE ACCESS HOLE IS AVAILABLE TO THE CHIMNEY, ONE MUST USE A PRESSURE CYCLING PROCEDURE WHICH CONSISTS OF REPEATED PRESSURIZATIONS AND DEPRESSURIZATIONS. THE RELEASED GASES DURING DEPRESSURIZATION ACT AS THE VEHICLE TO CARRY OFF CONTAMINANTS. WHEN TWO OR MORE ACCESS HOLES ARE AVAILABLE, ONE CAN CONTINUOUSLY PLUSH CLEAN AIR THROUGH THE CHIMNEY. THE LATTER METHOD WOULD REQUIRE THE ADDITIONAL COST OF DRILLING OF A SECOND HOLE, WHICH COULD BE CONSIDERABLE. TO GAIN SOME INSIGHTS TO THE RELATIVE EFFECTIVENESS OF THE VARIOUS APPROACHES, LABORATORY EXPERIMENTS WERE CONDUCTED ON A VERY SMALL SCALE, TO SIMULATE ACTUAL CONDITIONS WHICH MIGHT BE ENCOUNTERED IN THE FIELD. (AUTH.)

H-3, KR-85, RADIONUCLIDES, UNDERGROUND NUCLEAR EXPLOSIONS, NUCLEAR EXPLOSIONS, EXPLOSIONS, NUCLEAR CHIMNEYS, PROJECT KETCH, FLOWSHARE PROGRAM, PURGING, NATURAL GAS STORAGE

07081

W. D. ARNOLD AND D. J. CROUSE

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.

CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1969.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-2888. 14 P., 1970, 4 FIGS., 2 TABS., 5 REFS.

WHEN GREEN RIVER OIL SHALE WAS HEATED WITH TRITIATED HYDROGEN, THE SHALE AND THE OIL SUBSEQUENTLY RETORTED FROM THE SHALE WERE CONTAMINATED WITH TRITIUM. MUCH LOWER CONTAMINATION RESULTED FROM EXPOSURE OF THE SHALE TO TRITIATED METHANE OR TRITIATED ETHANE. THE TRITIUM CONTAMINATION OF THE SHALE AND OIL INCREASED STEADILY AS THE EXPOSURE TIME OF THE SHALE TO TRITIATED HYDROGEN WAS INCREASED TO 25 DAYS. ABOUT 60% OF THE TRITIATED HYDROGEN WAS REMOVED FROM A CONTAMINATED SHALE SAMPLE BY TREATING IT FOR 6 DAYS AT 95 DEGREES C WITH A MOIST GAS TREAN. IN SMALL-SCALE TESTS SIMULATING OPERATIONS IN A NATURAL GAS PROCESSING PLANT, VERY SMALL BUT MEASURABLE TRITIUM CONTAMINATION OF KEROSENE OCCURRED WHEN IT WAS EXPOSED AT ELEVATED PRESSURE TO TRITIATED METHANE OR TRITIATED ETHANE FOR 30-45 DAYS. THE CONTAMINATION WAS GREATER WITH ETHANE THAN WITH METHANE. IN BOTH CASES, THE TRITIUM CONCENTRATION OF THE KEROSENE INCREASED STEADILY WITH INCREASING EXPOSURE TIME. H-3, RADIONUCLIDES, CANE, SHALE, SEDIMENTARY ROCK, ROCK, CONTAMINATION, TRITIATED METHANE, TRITIATED ETHANE, FLOWSHARE PROGRAM

07082

URIEL KARPUNKEL

ISRAEL INSTITUTE OF TECHNOLOGY, HAIFA, ISRAEL

MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION.

HAIFA, ISRAEL, ISRAEL INSTITUTE OF TECHNOLOGY, M.S. THESIS. 120 P., 1961, 7 FIGS., TABS., 70 REFS. (U.S. ABC REPORT TID-19994) (IN HEBREW)

U.S. ABC CONTRACT NO. AT(30-1)-2166.

DESCRIBING A LABORATORY METHOD FOR MEASURING TRITIUM DOWN TO 0.5 T.U. CONCENTRATION WITH CA. 20%-ACCURACY, IT IS CONCLUDED THAT MEASUREMENT IN THE GAS PHASE HAS BEEN PUSHED ALMOST TO ITS PRACTICAL OPTIMUM WHILE OTHER METHODS CAN BE MORE SENSITIVE AND CONVENIENT. ANALYSIS OF 50 MEASURED SAMPLES OF RAINFALL INDICATES THAT H-3 FROM THERMONUCLEAR DEVICES SERVES AS A TRACER FOR INVESTIGATING INTERNATIONAL METEOROLOGY AND WATER CIRCULATION AND DOES NOT JUSTIFY THE POSTULATION OF EXTRA-TERRESTRIAL PROCESSES FOR THE PRODUCTION OF TRITIUM, ALTHOUGH SMALL CONTRIBUTIONS OF THIS OR SOME OTHER UNKNOWN SOURCE MAY STILL BE POSSIBLE.

H-3, RADIONUCLIDES, LABORATORY METHODS, GASEOUS TRITIUM, RAINWATER, TRACERS, METEOROLOGY, WATER, CIRCULATION, ELECTROLYTIC ENRICHMENT, MEASUREMENT

07083

R. H. WILSON, ED.

HANFORD ATOMIC PRODUCTS OPERATION, RADIATION PROTECTION OPERATION, RICHLAND, WASH.

EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963.

RICHLAND, WASH., HANFORD ATOMIC PRODUCTS OPERATION, RADIATION PROTECTION OPERATION, HW-80991. 192 P., 1964, 24 FIGS., 33 TABS., 11 REFS.

U.S. ABC CONTRACT NO. AT(45-1)-1350.

AS A PART OF THE EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963, THE PROBABLE EXTENT AND CONCENTRATION OF TRITIUM IN THE GROUND WATER IS SHOWN.

H-3, RADIONUCLIDES, CONCENTRATION, GROUND WATER, WATER, HANFORD PROJECT, CONTAMINATION, RADIOACTIVE WASTES, WASTES

07084

W. D. ARNOLD AND D. J. CROUSE

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.

FOR JANUARY 1 TO MARCH 31, 1969.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-2567. 12 P., 1969, 3 FIGS., 1 TAB., 3 REFS.

CONTAMINATION OF OIL SHALE OR RETORTED OIL WITH TRITIUM WAS NOT SIGNIFICANTLY HIGHER AFTER 166 DAYS EXPOSURE OF THE SHALE TO TRITIATED WATER VAPOR AT 85 DEGREES C THAN AFTER 29 DAYS EXPOSURE. THE EFFICIENCY WITH WHICH TRITIUM WAS REMOVED FROM THE CONTAMINATED SHALE WITH MOIST AIR AT 200 DEGREES C ALSO WAS NOT AFFECTED BY THIS CHANGE IN EXPOSURE TIME. ONLY SMALL AMOUNTS OF TRITIUM WERE REMOVED FROM CONTAMINATED OIL SAMPLES BY HEATING UNDER REFLUX FOR 24 HR WITH WATER, 0.1 N NaOH, OR 0.1 N H₂SO₄.

H-3, RADIONUCLIDES, CONTAMINATION, SHALE, SEDIMENTARY ROCK, ROCK, CANE, PLOWSHARE PROGRAM

07085

W. D. ARNOLD AND D. J. CROUSE

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.

CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-2502. 12 P., 1969, 1 FIG., 3 TABS., 3 REFS.

ALMOST 92% OF THE TRITIUM WAS REMOVED FROM CONTAMINATED OIL SHALE BY TREATING IT FOR 15 DAYS AT 200 DEGREES C WITH MOIST AIR. ABOUT 70% OF THE TRITIUM WAS REMOVED FROM THE SHALE IN THE FIRST DAY. TRITIUM PENETRATED TO THE CENTER OF A 28 MM SHALE CUBE IN 25 DAYS OF EXPOSURE AT 85 DEGREES C TO TRITIATED WATER VAPOR. WHEN CONTAMINATED SHALE WAS RETORTED, THE TRITIUM CONCENTRATION WAS APPROXIMATELY CONSTANT IN THE OIL FRACTIONS COLLECTED THROUGHOUT THE RUN.

H-3, SHALE, CANE, RETENTION, PENETRATION, EXTRACTION, RADIONUCLIDES, PLOWSHARE PROGRAM, SEDIMENTARY ROCK, ROCK, CONTAMINATION

07086

W. D. BOND

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.

PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT- I. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN- WATER SYSTEM.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-3334. 19 P., 1962, 6 FIGS., 8 TABS., 12 REFS.

U.S. AEC CONTRACT NO. W-7405-ENG-26. THE RESULTS OF ALL EXCHANGE EXPERIMENTS SUGGEST THAT TRITIUM PRODUCED BY A CONTAINED NUCLEAR EXPLOSION WILL BE MIXED WITH ENVIRONMENTAL WATER-TRITIUM EXCHANGE WAS CATALYZED AT 600 DEGREES C BY A NUMBER OF OXYGENATED SALTS THAT OCCUR IN SALT FORMATIONS.

CALCIUM SULFATE WAS THE BEST CATALYST, WITH VALUES AS HIGH AS 49 AND 71% WITH PURE CASO₄ AND DRIERITE, RESPECTIVELY, IN DEEP BED FLOW TESTS. EVEN UNDER DIFFUSION-CONTROLLED CONDITIONS, WHERE REACTANT GASES WERE PASSED OVER FINE POWDERS OF CASO₄ (MINUS 4), EXCHANGES WERE AS HIGH AS 26% FOR RESIDENCE TIMES OF 50 SEC. SODIUM CHLORIDE HAD NO EFFECT. AT HIGH TEMPERATURES IN A PLASMA JET, WITH DISUB 2) AS A STAND-IN FOR T(SUB 2), EXCHANGE WAS VERY RAPID.

H-3, RADIONUCLIDES, NUCLEAR EXPLOSIONS, EXPLOSIONS, SALT MEDIUM, ISOTOPE EXCHANGE, EXCHANGE RATE, DEUTERIUM, WATER

07087

A. C. CHAMBERLAIN AND A.E.J. EGGLETON

UNITED KINGDOM ATOMIC ENERGY AUTHORITY, HEALTH PHYSICS DIVISION, HARWELL, ENGLAND

WASHOUT OF TRITIATED WATER VAPOUR BY RAIN.

HARWELL, ENGLAND, UNITED KINGDOM ATOMIC ENERGY AUTHORITY, HEALTH PHYSICS DIVISION, AERE-R-3970.

31 P., 1962, 6 FIGS., 2 TABS., 18 REFS.

HTO VAPOR EXCHANGE WITH RAINDROPS MAY BE CALCULATED ASSUMING THE RATE DETERMINING FACTOR IS DIFFUSION ACROSS THE BOUNDARY LAYER OF AIR SURROUNDING THE DROP. THEN THE SPECIFIC ACTIVITY OF RAIN WHICH HAS PASSED THROUGH A PLUME OF HTO VAPOR FROM A STACK IS CALCULATED. PLOTTING THE SPECIFIC ACTIVITY OF RAIN ON REACHING THE GROUND AGAINST DISTANCE FROM THE FOOT OF THE STACK YIELDS A CURVE PEAKING AT A DISTANCE ABOUT EQUAL TO STACK HEIGHT BUT DEPENDING ON WIND SPEED. FARTHER THAN SIX STACK HEIGHTS, THE SPECIFIC ACTIVITY OF RAIN REACHING THE GROUND IS LESS THAN THE SPECIFIC ACTIVITY OF THE WATER VAPOR IN THE AIR AT GROUND LEVEL, DUE TO DOWNWARD DIFFUSION OF THE HTO PLUME. IN MOST PRACTICAL SITUATIONS THE PERMISSIBLE OUTPUT OF HTO FROM A STACK WILL BE DETERMINED BY UPTAKE OF HTO VAPOR BY PERSONS DOWNWIND, AND NOT BY RAIN WASHOUT.

H-3, RADIONUCLIDES, TRITIATED WATER, WATER VAPOR, WASHOUT, RAINWATER, EXCHANGE, SPECIFIC ACTIVITIES, STACK EMISSION

07088

MARTIN RACHMELER

NORTHWESTERN UNIVERSITY, MEDICAL SCHOOL, EVANSTON, ILL.

THE EFFECTS OF TRITIUM DECAY ON DNA. PROGRESS REPORT FOR THE PERIOD 1 JANUARY--31 DECEMBER 1967.

EVANSTON, ILL., NORTHWESTERN UNIVERSITY, MEDICAL SCHOOL. U.S. AEC REPORT C00-1603-2. 9 P., 1968, 2 FIGS., 1 TAB., 8 REFS.

U.S. AEC CONTRACT NO. AT(11-1)-1603.

TO DETERMINE THE NATURE OF EFFECTIVE AGENT(S) THAT CAUSE BIO- LOGICAL PROPERTIES AFTER TRITIUM DECAYS IN A CELL, THE NATURE OF THE DEFECTS, AND THE EXTENT OF DAMAGE NECESSARY BEFORE PHENOTYPIC AND GENOTYPIC EFFECTS CAN BE OBSERVED, TRITIUM WAS INCORPORATED INTO VARIOUS MACROMOLECULES OF THE CELL AND THE EFFECTS OF THEIR DECAY ON VIABILITY, ENZYME FORMING ABILITY, AND MUTATION TYPE AND FREQUENCY WERE STUDIED. DNA, LABELED WITH H-3 IN VIVO WAS ISOLATED AND EXAMINED AFTER VARYING PERIODS OF TIME TO DETERMINE HETEROGENEITY AS CAUSED BY DOUBLE AND SINGLE STRANDED BREAKS. DIFFERENT STRAINS OF ESCHERICHIA COLI SHOWED DIFFERENT SENSITIVITIES TO TRITIUM DECAYS. INABILITY TO FIND THYMINE IN THE MEDIUM AFTER EXTENSIVE DNA DEGRADATION SUGGESTS THAT LABILIZATION OF THE C-N BOND BETWEEN THYMINE AND DEOXYRIBOSE DUE TO TRITIUM DECAY CAUSES FEW OR NO BREAKS IN THE DNA DEGRADATION. H-3, RADIOCLIDES, RADIOACTIVE DECAY, DNA, ESCHERICHIA, BACTERIA, MICROORGANISMS, RADIATION EFFECTS, RADIOSENSITIVITY

07089

T. M. ESSIG

BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, RICHLAND, WASH.

RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY-JUNE, 1968.

RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LAB- ORATORIES, BNWL-984. 19 P., 1969, 2 FIGS., 6 TABS., 5 REFS.

SEMIANNUAL REPORT PROVIDES AN EVALUATION OF THE STATUS OF GROUND WATER CONTAMINATION RESULTING FROM DISPOSAL OF PLANT EFFLUENTS. CONTOURS ARE GIVEN SHOWING AN EVALUATION OF TRITIUM CONCENTRATIONS IN TERMS OF MPC VALUES. THE FEW LOCATIONS WHICH EXCEEDED THE MPC WERE ALL WITHIN THE 200 B OR 200 W AREAS.

H-3, RADIONUCLIDES, GROUND WATER, WATER, CONTAMINATION, MAXIMUM PERMISSIBLE CONCENTRATION, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, CONCENTRATION, AQUIPERS, HANFORD PROJECT, RU-106

07090

H. A. KORNBERG

GENERAL ELECTRIC, HANFORD WORKS, RICHLAND, WASH.

BIOLOGY RESEARCH; ANNUAL REPORT, 1951.

RICHLAND, WASH., GENERAL ELECTRIC, HANFORD WORKS, HW-25021. 211 P., 1952, FIGS., TABS., REFS.

U.S. AEC CONTRACT NO. W-31-109-ENG-52.

ABSORPTION OF TRITIUM OXIDE AND RETENTION OF TRITIUM WERE STUDIED IN MAN, RATS, AND PLANTS.

THE RATE OF PERCUTANEOUS ABSORPTION IN MAN FROM A WATER SATURATED ATMOSPHERE WAS 0.28 MICROCURIES TRITIUM PER CM(2) OF SKIN PER MIN. PER MICROCURIES OF TRITIUM OXIDE PER CM(3) OF ATMOSPHERE. RATS INCORPORATED TRITIUM INTO TISSUE COMPONENTS WITH BIOLOGICAL HALF-LIVES OF 3-5 DAYS, ABOUT 20 DAYS, AND GREATER THAN 80 DAYS. A LESS THAN THEORETICAL RATE OF INCORPORATION OF TRITIUM BY ALGAE INDICATED

A POSSIBLE ISOTOPE EFFECT. BACTERIA HAVING HYDRO- GENASE, AND SOME NOT PREVIOUSLY KNOWN TO HAVE IT, OXIDIZED MOLECULAR TRITIUM. EVIDENCE THAT TRITIUM OXIDATION BY RATS IS MAINLY DUE TO BACTERIA INCLUDED- A) BACTERIA ISOLATED FROM INTESTINE FIXED TRITIUM; B) EVISCERATION AND FEEDING OF ANTIBIOTICS REDUCED TRITIUM FIXATION SIGNIFICANTLY; C) INTESTINE AND SPLEEN WERE THE MOST ACTIVE TISSUES IN FIXING TRITIUM. FIXATION OF PU WAS DECREASED IN RAT BONE AND INCREASED IN SOFT TISSUES BY INJECTIONS OF ZIRCONIUM CITRATE. H-3, RADIONUCLIDES, TRITIUM OXIDE, PERCUTANEOUS ABSORPTION, UPTAKE, HALF-LIFE, BACTERIA, FIXATION, MICROORGANISMS, RETENTION, MAN, RATS, RODENTS, MAMMALS, PLANTS, INTESTINES, SPLEEN, OXIDATION, PU-238, DOGS

07091

MARY E. SMITH AND C. L. CARNAHAN
ISOTOPES, A TELEDYNE CO., PALO ALTO LABORATORIES, PALO ALTO, CALIF.
THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA.
PALO ALTO, CALIF., ISOTOPES, A TELEDYNE CO., PALO ALTO LABORATORIES, NVO-1229-85. 60 P., 1968,
6 FIGS., 1 TAB., 43 REFS.
U.S. AEC CONTRACT NO. AT(29-2)-1229.

UNDERGROUND NUCLEAR EXPLOSIONS RESULT IN FORMATION OF CERTAIN RADIOACTIVE GASES WHICH MIGHT BE TRANSPORTED AWAY FROM AN EXPLOSION ZONE AND CREATE POSSIBLE HAZARDS TO GROUND WATER SUPPLIES. STUDY OF NORMAL DIFFUSION, UNDER THE SOLE INFLUENCE OF CONCENTRATION GRADIENTS, INDICATES THAT THIS MECHANISM MAY NOT BE ADEQUATE TO ACCOUNT FOR OBSERVED GROUND-SURFACE CONCENTRATIONS OF RADIOACTIVE GASES AT SHORT TIMES AFTER DEEPLY BURIED DETONATIONS, BUT MIGHT CAUSE CONTAMINATION OF DISTANT GROUND WATERS AT MUCH LATER TIMES, OF THE ORDER OF TENS OF YEARS AFTER DETONATION. FURTHER THEORETICAL STUDY OF DIFFUSIONAL TRANSPORT MECHANISMS AND CERTAIN LABORATORY AND FIELD INVESTIGATIONS WOULD BE USEFUL IN ELUCIDATING THE MECHANISM OR MECHANISMS BY WHICH SUCH GAS TRANSPORT IS EXPECTED. THE CHEMICAL FORMS AND DISTRIBUTION OF H-3 FOLLOWING NUCLEAR DETONATIONS IN VARIOUS MEDIA ARE DISCUSSED. H-3, RADIONUCLIDES, TRITIATED WATER, FLOWSHARE PROGRAM, MOVEMENT, CONTAMINATION, GROUND WATER, WATER, UNDERGROUND NUCLEAR EXPLOSIONS, TRANSPORT, GASES, DIFFUSION, DIFFUSION EQUATION, EQUATIONS, KR-85

07092

C. P. SMITH
UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.
GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-72153. 19 P., 1969, 12 FIGS., 12 REFS. (ALSO U.S. AEC REPORT PNE-G-55 AND CONF-700101, PP. 775-793.)
SAMPLES OF THE GAS WERE ANALYZED FOR BOTH THE RADIONUCLIDE AND GAS CONSTITUENT CONTENT. AT THE TIME OF REENTRY THE CHIMNEY GAS CONTAINED 800 PC1/M(3) OF WHICH 80% WAS CH(SUB 3)T. LESSER QUANTITIES OF TRITIUM WERE OBSERVED AS HT, C(SUB 2)H(SUB 5)T AND C(SUB 3)H(SUB 7). THE OTHER MAJOR CONTAMINANT WAS KR-85 WHICH WAS PRESENT AT ABOUT 1/5 AND LEVEL OF CH(SUB 3)T. SMALL QUANTITIES OF CARBON-14 AND ARGON-39 WERE ALSO IDENTIFIED. THE ONLY OTHER RADIONUCLIDES IDENTIFIED IN THE GAS WERE RELATIVELY SHORT-LIVED RARE GASES.
PROJECT GASBUGGY, FLOWSHARE PROGRAM, H-3, RADIONUCLIDES, C-14, AR-37, AR-39, KR-85, NUCLEAR CHIMNEYS, CONCENTRATION, NATURAL GAS, METHANE

07093

GLENN E. STOUT
ILLINOIS STATE WATER SURVEY AT THE UNIVERSITY OF ILLINOIS, URBANA, ILL.
STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS; SEVENTH PROGRESS REPORT.
URBANA, ILL., ILLINOIS STATE WATER SURVEY AT THE UNIVERSITY OF ILLINOIS, C00-1199-17. 64 P., 1968,
20 FIGS., 7 TABS., 31 REFS.
U.S. AEC CONTRACT NO. AT(11-1)-1199.

A SERIES OF AIRCRAFT SOUNDINGS WAS MADE OVER CENTRAL ILLINOIS DURING THE SUMMERS OF 1966 AND 1967 TO MEASURE THE VERTICAL DISTRIBUTION OF TRITIUM IN WATER VAPOR TO AN ALTITUDE OF 5 KM. THREE TYPES OF TRITIUM DISTRIBUTIONS WERE FOUND. THE TYPE I SOUNDINGS SHOWED A GENERALLY INCREASING TRITIUM CONCENTRATION WITH INCREASING HEIGHT. TYPE II SOUNDINGS WERE CHARACTERIZED BY A CONSTANT TRITIUM CONCENTRATION WITH INCREASING ALTITUDE. ON TYPE III SOUNDINGS THE TRITIUM CONCENTRATION GRADUALLY DECREASED TO APPROXIMATELY 2.4 KM AND THEN ABRUPTLY INCREASED. THE SOUNDINGS ARE DISCUSSED IN TERMS OF THE ORIGIN OF THE AIR MASSES, EVAPOTRANSPIRATION, AND THE WATER VAPOR (APPEND. 8 IN THIS REPORT, BY W. E. BRADLEY.)
H-3, RADIONUCLIDES, VERTICAL DISTRIBUTION, DISTRIBUTION, TROPOSPHERE, CONCENTRATION, WATER VAPOR, EVAPOTRANSPIRATION, MIXING, ILLINOIS

07094

MINNESOTA DEPT. OF HEALTH AND THE RURAL COOPERATIVE POWER ASSOCIATION, MINNEAPOLIS, MINN.
SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY--DECEMBER 1968.
MINNEAPOLIS, MINNESOTA DEPT. OF HEALTH, AND ELK RIVER, MINN., RURAL COOPERATIVE POWER ASSOCIATION,
U.S. AEC REPORT C00-651-72. 39 P., 1969, FIGS., TABS.
U.S. AEC CONTRACT NO. AT(11-1)-651.

RESULTS OF FALLOUT MONITORING STUDIES IN MINNESOTA FOR THE PERIOD ARE REPORTED- GROSS BETA RADIOACTIVITY IN SAMPLES OF ATMOSPHERE, LAKE AND RIVER WATERS, AND PRECIPITATION, THE CONTENT OF CS-137, I-131, AND SR-90 IN MILK SAMPLES, AND THE CONTENT OF TRITIUM IN SAMPLES OF SURFACE WATER (RANGED FROM ONLY 830 TO 2600 PICOCI/L).
H-3, CS-137, I-131, SR-90, RADIONUCLIDES, FALLOUT, ENVIRONMENTAL MONITORING, MINNESOTA, ATMOSPHERE (TERRESTRIAL), LAKES, RIVERS, PRECIPITATION (METEOROLOGICAL), MILK, DAIRY PRODUCTS, SURFACE WATERS, BETA RADIATION, RADIATION

07095

D. H. DENHAM
BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, RICHLAND, WASH.
RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT JULY-DECEMBER 1969.
RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, BNWL-1392. 23 P., 1970, 3 FIGS., 5 TABS., 5 REFS.

AN EVALUATION OF RU-106 AND H-3 CONCENTRATIONS MEASURED IN THE UNCONFINED GROUNDWATER DURING THE LAST HALF OF 1969 IS GIVEN. WATER FROM ONLY ONE WELL LOCATED OUTSIDE OF THE 200 AREA FENCES INDICATED A H-3 CONCENTRATION GREATER THAN THE CONCENTRATION GUIDE. WATER SAMPLES SHOWING DETECTABLE H-3 CONCENTRATIONS IN CONFINED GROUNDWATER ZONES WERE OBTAINED FROM FOUR WELLS.
H-3, RU-106, RADIONUCLIDES, CONCENTRATION, GROUND WATER, WATER, HANFORD PROJECT, CR-51, NITRATE IONS

07096

E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, AIKEN, S. C.
EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969.
AIKEN, S. C., E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER PLANT, DPST-70-30-1. 19 P., 1970,
4 FIGS., 8 TABS.

THE ENVIRONMENTAL MONITORING PROGRAM OPERATED IN CONJUNCTION WITH THE SAVANNAH RIVER PLANT MAKES ROUTINE MEASUREMENTS OF THE CONCENTRATIONS OF RADIONUCLIDES IN AIR, WATER, FISH, MILK, VEGETATION AND A NUMBER OF FOODS CONSUMED BY MAN. RESULTS OF ANALYSIS FOR GAMMA EMITTERS AND FOR SELECTED ALPHA AND BETA EMITTERS INDICATE THAT NONE OF THE LEVELS OF RADIO ACTIVITY IN THE ENVIRONMENT ARE HIGH ENOUGH TO CONSIDER AS HEALTH HAZARDS WHEN COMPARED TO THE CONCENTRATION GUIDES WHICH ARE BASED UPON THE FEDERAL RADIATION COUNCIL'S RECOMMENDATIONS. THE AVERAGE TRITIUM CONCENTRATION IN MILK RANGED FROM 1 TO 1.9 NANO- CURIES PER LITER OF MILK.
RADIOACTIVITY, H-3, TRITIUM OXIDE, ATMOSPHERE (TERRESTRIAL), FOODS, WATER, VEGETATION, FISH, MILK, GAMMA EMITTERS, CS-137, CS-134, CE-141, CE-144, RU-103, RU-106, ZR-95, NB-95, BB-7, BA-140, LA-140,

NP-239, MONITORING, SAVANNAH RIVER PLANT, RADIONUCLIDES

07097

SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, LE VESINET, FRANCE
RAPPORT D'ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.)
LE VESINET, FRANCE, SERVICE CENTRAL DE PROTECTION CONTRE LES RAYONNEMENTS IONISANTS, SCPRI(RN)-IX-1967
AND SUPPL. 37 P., 1967, FIGS., TABS., REFS.

RADIOACTIVITY WAS MONITORED IN THE ATMOSPHERE (AT GROUND LEVEL AND HIGH ALTITUDES), RAIN WATER, MILK, AND VEGETABLES. TABULATIONS WERE MADE OF CONTENTS OF- BE-7, MN-54, SR-90, ZR-95, RU-103, RH-106, I-131, CS-137, AND BA-140. TABLES ALSO PRESENTED FOR- SR-90 CONTENT OF ANIMAL BONES; I-131 CONTENT OF THYROID GLANDS OF CATTLE; TRITIUM CONTENT OF WATER; CS-137 CONTENT OF FISH; AND CS-137 AND SR-90 CONTENT OF SEA WATER. A BIBLIOGRAPHY OF RADIATION PROTECTION STANDARDS IS INCLUDED.

(NSA 22, NO. 6806)
RADIOACTIVITY, ATMOSPHERE (TERRESTRIAL) RAINWATER, MILK, VEGETABLES, RADIONUCLIDES, BE-7, MN-54, SR-90, ZR-95, RU-103, RH-106, I-131, CS-137, BA-140, THYROID GLAND, BONE, FISH, SEA WATER, WATER, COWS, LIVESTOCK

07098

J. H. GOODE AND V. C. A. VAUGHEN
OAK RIDGE NATIONAL LABORATORY, CHEMICAL TECHNOLOGY DIVISION, OAK RIDGE, TENN.
ORNL EXPERIMENTS ON THE BEHAVIOR OF TRITIUM DURING HEAD-END PROCESSING OF IRRADIATED REACTOR FUELS.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, CHEMICAL TECHNOLOGY DIVISION, ORNL-TM-2793. 21 P., 1970, 2 FIGS., 3 TABS., 22 REFS.

THE BEHAVIOR OF TRITIUM, A TERNARY FISSION PRODUCT HAVING AN APPROXIMATE 0.01% YIELD, WAS INVESTIGATED IN HOT-CELL TESTS OF SEVERAL PRE-SOLVENT EXTRACTION OPERATIONS FOR POWER REACTOR FUEL PROCESSING USING VARIOUS OXIDE AND CARBIDE SPECIMENS. GENERALLY, LESS THAN 5% OF THE CALCULATED YIELD OF TRITIUM WAS FOUND IN SAMPLES OF FUEL RODS THAT HAD BEEN OPERATED AT LINEAR HEAT RATINGS GREATER THAN ABOUT 3 TO 4 KW/PT. FURTHER EFFORTS TO DETERMINE THE PATE OF THE REMAINING TRITIUM, BOTH DURING IRRADIATION AND FUEL REPROCESSING, ARE PLANNED. (AUTHS.)

H-3, RADIONUCLIDES, NUCLEAR FUEL PLANTS, FUEL PROCESSING, KR-85

07099

J. T. WHITTON
CENTRAL ELECTRICITY GENERATING BOARD, BERKELEY NUCLEAR LABORATORIES, BERKELEY, ENGLAND
CRITICAL ANALYSIS OF ICRP DERIVATION OF MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM.
BERKELEY, ENGLAND, CENTRAL ELECTRICITY GENERATING BOARD, BERKELEY NUCLEAR LABORATORIES, RD/B/M1354.
19 P., 1969, 2 TABS., 13 REFS.

THE DERIVATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION (MPC) OF TRITIATED WATER OR WATER VAPOUR IS CRITICALLY REVIEWED. THE ICRP CALCULATIONS (ICRP PUBLICATION 2 1959) FOR TRITIUM ARE PRESENTED IN DETAIL FROM FIRST PRINCIPLES TO THE FINAL RESULTS. THIS INVESTIGATION SHOWED THAT ICRP VALUES FOR THE (MPC) ARE EXTREMELY WELL FOUNDED AND THERE IS NO REASON FOR SUPPOSING THE HAZARD FROM EXPOSURE TO TRITIUM TO BE MORE SERIOUS THAN AT PRESENT THOUGHT. IT IS SHOWN THAT THE GREATEST POSSIBLE REVISIONS IN THE PHYSICAL AND BIOLOGICAL BASIS OF TRITIUM DOSIMETRY WOULD NOT INVOLVE CHANGES OF MORE THAN A FACTOR OF TWO IN THE RESULTANT (MPC) VALUES. (AUTH.)

H-3, RADIONUCLIDES, MAXIMUM PERMISSIBLE CONCENTRATION, TRITIATED WATER, TRITIATED WATER VAPOR, DOSIMETRY, CONCENTRATION, TISSUES, BODY WATER, RADIATION EXPOSURE, MAN

07100

W. L. ROBISON AND L. R. ANSPAUGH
UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.
ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50791. 37 P., 1969, 2 TABS., 123 REFS.

SEVERAL QUESTIONS CONCERNING THE BIOLOGY AND PHYSICS OF TRITIUM ARE CONSIDERED. THE GENERAL CONCLUSIONS ARE THAT ORDINARY CALCULATIONS OF ABSORBED DOSE BASED ON ENERGY UNIFORMLY DISTRIBUTED THROUGHOUT A VOLUME ARE SUFFICIENT TO DESCRIBE THE OBSERVED EFFECTS. IT APPEARS THAT THERE IS NO INCREASE IN THE INCORPORATION OF TRITIUM INTO DNA AS A RESULT OF THE INGESTION OF TRITIATED DNA BY ASCENDING TROPHIC LEVELS. THE CONCENTRATION OF H-3 IN THE ENVIRONMENT SEEMS TO BE THE CONTROLLING FACTOR. DOSE ESTIMATES TO THE SURROUNDING POPULATION FROM INHALATION AND FOOD-CHAIN PATHWAYS WERE MADE FROM SOURCE TERMS PREDICTED FOR THE PROJECT RULISON OPERATION. FROM THESE DOSE ESTIMATES, THE RISKS ARE CALCULATED FOR GENETIC LOSS, LEUKEMIA, CANCER AND NONSPECIFIC LIFE-SHORTENING FOR THE INDIVIDUALS LIVING IN THE VICINITY OF THE RULISON SITE.

PROJECT RULISON, PLOWSHARE PROGRAM, H-3, RADIONUCLIDES, ABSORBED DOSE, DOSE ESTIMATION, INHALATION, FOOD-CHAINS, DNA, FLARING, RAINOUT, WASHOUT, RADIATION DOSE, INGESTION, WHOLE BODY EXPOSURE, RADIATION EXPOSURE, RADIOLOGICAL HAZARDS, GENETIC EFFECTS, RADIATION EFFECTS, MUTATIONS, MAN

07101

V. P. BOND
BROOKHAVEN NATIONAL LABORATORY, UPTON, N.Y.
EVALUATION OF POTENTIAL HAZARDS FROM TRITIUM WATER.
UPTON, N. Y., BROOKHAVEN NATIONAL LABORATORY, U.S. AEC REPORT, CONF-700810-8. (PAPER PRESENTED AT THE IAEA SYMPOSIUM ON ENVIRONMENTAL ASPECTS OF NUCLEAR POWER STATIONS, HELD IN NEW YORK CITY, 10-14 AUGUST 1970). 26 P., 1970, 44 REFS. (PUBL. IN STI/PUB/261, PP. 287-300, 1971.)

THE POSSIBLE BIOLOGICAL EFFECTS OF TRITIUM WERE ANALYZED, AND SEVERAL FACTORS THAT MUST GO INTO AN EVALUATION WERE CONSIDERED BOTH FROM THE THEORETICAL AND EXPERIMENTAL STANDPOINTS. SEVERAL POSSIBLE FACTORS THAT MIGHT POSSIBLY INCREASE THE DEGREE OF TOXICITY OVER THAT EXPECTED FROM THE ABSORBED DOSE ARE CONSIDERED IN SOME DETAIL. THE CONCLUSION IS REACHED THAT THESE FACTORS DO NOT SIGNIFICANTLY INCREASE THE DOSE THAT MIGHT BE EXPECTED FROM A GIVEN CONCENTRATION OF TRITIUM IN THE ENVIRONMENT, OR THE EFFECTS OF THAT DOSE. A GIVEN DOSE (E.G., AN MPD) OF RADIATION FROM THE BETA RAYS OF TRITIUM (FROM EITHER INHALATION OR INGESTION) HAS THE SAME RADIOBIOLOGICAL AND RADIATION PROTECTION MEANING AS THE GIVEN DOSE FROM X-RAYS (SAME DOSE RATE PATTERN), AND NO ADDED SIGNIFICANCE OR POTENTIAL HAZARD IS TO BE ATTACHED BY VIRTUE OF THE FACT THAT THE DOSE MAY HAVE BEEN DERIVED FROM TRITIUM.

RADIOLOGICAL HAZARDS, TRITIATED WATER, H-3, RADIONUCLIDES, BIOLOGICAL EFFECTS, RADIATION DOSE, TOXICITY, RADIATION EXPOSURE, ABSORBED DOSE, DOSE EQUIVALENTS, EXCRETION, CONCENTRATION, ORGANS, DNA, GENETIC EFFECTS

07102

GARDNER C. SWAIN AND LAWRENCE J. SCHAAD
MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.
A RELATION BETWEEN TRIPTIUM/TRITIUM AND PROTIUM/DEUTERIUM ISOTOPE EFFECTS.
CAMBRIDGE, MASS., MASSACHUSETTS INSTITUTE OF TECHNOLOGY, U.S. AEC REPORT AECU-3988. 11 P., 1958, 2 FIGS., 8 REFS.

AVAILABILITY- CPSTI AD-150-493.
U.S. AEC CONTRACT NO. AT(30-1)-905.

A RELATION BETWEEN TRITIUM AND DEUTERIUM ISOTOPE EFFECTS IS DERIVED AND COMPARED WITH EXPERIMENTAL DATA. THE AUTHOR FELT THE ASSUMPTIONS WERE JUSTIFIED.
H-3, RADIONUCLIDES, DEUTERIUM, ISOTOPE EFFECTS

07103

BERNADETTE VAUBERT AND ROBERT BITTEL
CONTRIBUTION A L'ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.)
FONTENAY-AUX-ROSES, COMMISSARIAT A L'ENERGIE ATOMIQUE, CENTRE D'ETUDES NUCLEAIRES, CEA-BIB-182 (EUR-4522).
52 P., 1970, 4 TABS., 82 REFS.

REVIEWS ASPECTS OF TRITIUM SUCH AS NUCLEAR CHARACTERISTICS, PRODUCTION PROCESSES AND RESULTING POTENTIAL HAZARDS; BEHAVIOR TOWARDS HYDROGEN AND SEVERAL HYDROGENATED COMPOUNDS; DETECTION AND RADIO- CHEMICAL DETERMINATION; ENVIRONMENTAL TRANSFERS, WITH EMPHASIS ON TRITIUM BEHAVIOR IN THE PRESENCE OF ATMOSPHERIC WATER AND IN VARIOUS AQUIFER SYSTEMS; SOME BIOLOGICAL CONSIDERATIONS OF ABSORPTION, INHALATION, AND DOSIMETRY; AND RADIOBIOLOGY IN ORDER TO CHARACTERIZE EFFECTS CAUSED BY THE NUCLEAR CHARACTERISTICS OF TRITIUM. (NSA 24, NO. 50937)
H-3, RADIONUCLIDES, TRITIUM HAZARDS, DETECTION, TRANSFER, AQUIPERS, ABSORPTION, INHALATION, DOSIMETRY, RADIOBIOLOGY, WATER VAPOR

07104

J. SEDLET AND P. S. IWAMI
ARGONNE NATIONAL LABORATORY, ARGONNE, ILL.
ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964.
ARGONNE, ILL., ARGONNE NATIONAL LABORATORY, ANL-7104. 45 P., 1965, 12 FIGS., 29 TABS., 10 REFS.
U.S. AEC CONTRACT NO. W-31-109-ENG-38.

THE RADIOACTIVE CONTENT OF THE ENVIRONMENT WAS DETERMINED BY CHEMICAL ANALYSES, TOTAL ACTIVITY MEASUREMENTS, AND GAMMA-RAY SPECTROMETRIC MEASUREMENTS PERFORMED ON SEVERAL TYPES OF NATURAL MATERIALS COLLECTED ON THE ANL SITE AND FROM LOCATIONS UP TO 100 MILES FROM THE SITE. SINCE AIR AND WATER ARE THE MOST PROBABLE MEDIA FOR SPREADING RADIOACTIVE CONTAMINATION, THE SAMPLING PROGRAM CONCENTRATED ON THESE MATERIALS. ARGONNE WASTE WATER IS DISCHARGED INTO SAWMILL CREEK, WHICH IN TURN FLOWS INTO THE DES PLAINES RIVER, AND SPECIAL EMPHASIS WAS PLACED ON THESE STREAMS. THE PRINCIPAL RADIONUCLIDE ADDED TO THE CREEK IN ARGONNE WASTE WATER WAS TRITIUM IN THE FORM OF TRITIATED WATER. THE AVERAGE TRITIUM CONCENTRATION IN SAWMILL CREEK FOR THE YEAR WAS $2.8 \times 10^{(6)}$ PICOCI/L, EQUIVALENT TO 93% OF THE MPC. TRITIUM WAS THE ONLY NUCLIDE THAT COULD BE DETECTED IN THE DES PLAINES RIVER. THE AVERAGE TRITIUM CONCENTRATION IN THE RIVER BELOW THE MOUTH OF THE CREEK WAS $2.8 \times 10^{(4)}$ PICOCI/L (0.93% OF THE MPC). THE MAXIMUM CONCENTRATION IN ANY ONE SAMPLE WAS $5.3 \times 10^{(5)}$ (18% OF THE MPC.) ENVIRONMENTAL MONITORING, ARGONNE NATIONAL LABORATORY, RADIOACTIVITY, AIR MONITORING, WATER MONITORING, WASTE, CONTAMINATION, SAWMILL CREEK, DES PLAINES RIVER, RIVERS, H-3, RADIONUCLIDES, LIQUIDS, RADIOACTIVE WASTES, RADIOACTIVE WASTES, TRITIATED WATER, ALPHA RADIATION, BETA RADIATION, SR-90, SR-89, BA-140, CS-137, I-131, CS-60, TH-234, SILT, PLUTONIUM, SURFACE WATERS, VEGETATION, SOILS

07105

WRIGHT H. LANGHAM
UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.
BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS.
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50639. 41 P., 1969, 1 FIG., 11 TABS., 33 REFS.

MATERIALS FREQUENTLY USED IN NUCLEAR WARHEADS ARE RECOGNIZED TO BE TOXIC. IN THE EVENT OF A NONNUCLEAR INCIDENT INVOLVING A WARHEAD, SOME OF THESE MATERIALS MAY BE RELEASED. PERTINENT PHYSICAL, CHEMICAL, AND RADIOLOGICAL PROPERTIES OF THESE MATERIALS ARE PRESENTED. PREDICTION OF EXPOSURE AND CONTAMINATION LEVELS AND AN EVALUATION OF BIOLOGICAL CONSEQUENCES OF SUCH AN INCIDENT ARE SUMMARIZED. (AUTH.)
NUCLEAR WARHEADS, PU-239, H-3, RADIONUCLIDES, ABSORPTION, SKIN, GASTROINTESTINAL TRACT, RETENTION, INHALATION, TOXICITY, INGESTION, BONE, RADIATION EXPOSURE, RADIATION DOSE, LUNGS, LIVER, DECONTAMINATION, BIOLOGICAL EFFECTS, CONTAMINATION

07106

R. C. THOMPSON
GENERAL ELECTRIC COMPANY, HANFORD WORKS, RICHLAND, WASH.
A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM.
RICHLAND, WASH., GENERAL ELECTRIC COMPANY, HANFORD WORKS, HW-20735. 14 P., 1951, 1 TAB., 49 REFS.
U.S. AEC CONTRACT NO. W-31-109-ENG-52.

DEUTERIUM FROM BODY WATER IS AVAILABLE FOR INCORPORATION IN A WIDE VARIETY OF TISSUE COMPOUNDS. QUANTITATIVE DATA ON THE EXTENT OF THIS INCORPORATION AND THE BIOLOGICAL HALF-LIFE OF THE BOUND DEUTERIUM HAVE BEEN FOUND FOR A NUMBER OF COMPOUNDS. THE EXTENT OF THE BINDING IS QUITE LARGE AND THE BIOLOGICAL HALF-LIFE QUITE SHORT. IN THE ABSENCE DIRECT EXPERIMENTAL EVIDENCE, IT SEEMS QUITE PROBABLE THAT SUCH DATA AS ARE AVAILABLE FOR DEUTERIUM, ARE EQUALLY APPLICABLE TO TRITIUM. H-3, DEUTERIUM, TRITIUM OXIDE, DEUTERIUM OXIDE, RADIONUCLIDES, BODY WATER, METABOLISM, TISSUES, BIOLOGICAL HALF-LIFE, HALF-LIFE, LIPIDS, DISTRIBUTION, CARBOHYDRATES, PROTEINS, ORGANIC COMPOUNDS

07107

U.S. PUBLIC HEALTH SERVICE. SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, LAS VEGAS, NEV.
LAS VEGAS, NEV.
OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE).
LAS VEGAS, NEV., SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, SWRHL-94-R. 78 P., 1970, 9 FIGS., 13 TABS., 4 REFS.

THE OPERATIONAL PROCEDURES AND RESULTS OF THE OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVALUATION PROGRAMS CONDUCTED FOR DETONATION IN PROJECT RULISON INCLUDED A SYSTEM OF ENVIRONMENTAL SURVEILLANCE OPERATED BEFORE AND AFTER DETONATION AND RADIATION MONITORING TEAMS. NO CHANGES IN ENVIRONMENTAL RADIOACTIVITY LEVELS WERE DETECTED FOLLOWING DETONATION. BASED ON PREDICTED GROUND MOTION IN THE VICINITY OF THE TEST WELL AS A RESULT OF THE NUCLEAR EXPLOSION, RESIDENTS WITHIN FIVE MILES OF THE TEST WELL WERE EVACUATED FROM THE AREA FOR SEVERAL HOURS ON D-DAY DURING DETONATION, AND UTILITIES WERE DISCONNECTED TO MINIMIZE FIRE HAZARDS. PHS REPRESENTATIVES REMAINED WITH FIVE FAMILIES AT HOME. ALL RESIDENTS BETWEEN 5 AND 9 MILES AWAY WERE INSTRUCTED TO BE OUTDOORS AND AWAY FROM STRUCTURES TO MINIMIZE HAZARDS. EVACUATION WAS SUCCESSFUL AND NO ACCIDENTS OR INJURIES WERE REPORTED BEFORE OR AFTER DETONATION.
PROJECT RULISON, PLOWSHARE PROGRAM, RADIOLOGICAL HAZARD, ENVIRONMENTAL MONITORING, H-3, RADIONUCLIDES, CONCENTRATION, WATER VAPOR, WATER, MILK, DAIRY PRODUCTS, FOODS, LIVESTOCK, VEGETATION, NATURAL GAS, CONTAMINATION

07108

R. J. MORTON, ED.
OAK RIDGE NATIONAL LABORATORY, HEALTH PHYSICS DIVISION, OAK RIDGE, TENN.
STATUS REPORT NO. 5 ON CLINCH RIVER STUDY.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, HEALTH PHYSICS DIVISION, ORNL-3721. 154 P., 1965, 28 FIGS., 19 TABS., 60 REFS.
U.S. AEC CONTRACT NO. W-7405-ENG-26.

WATER SAMPLES WERE COLLECTED FROM THE AREA IN AN AROUND THE OAK RIDGE RESERVATION AND ANALYSED FOR TRITIUM CONTENT. FOUR SAMPLES COLLECTED FROM SOURCES IN THE WHITE OAK CREEK BASIN KNOWN TO CONTAIN RADIOACTIVE WASTES HAD A MAXIMUM TRITIUM CONCENTRATION OF $3 \times 10^{(6)}$ PICOCI/L (1.1 MPC).

SIX SAMPLES TAKEN FROM STREAMS IN THE OAK RIDGE AREA HAD A MAXIMUM TRITIUM CONCENTRATION OF $4 \times 10^{(3)}$ PICOCI/L.
H-3, RADIONUCLIDES, STREAMS, CLINCH RIVER, RIVERS, WHITE OAK CREEK, CONCENTRATION, SEDIMENTS, DISTRIBUTION, RADIOACTIVE WASTES, WASTES, CONTAMINATION, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, SURFACE SEEPAGE

07109

NUCLEAR FUEL SERVICES, INC., WEST VALLEY, N.Y.
ENVIRONMENTAL REPORT; JANUARY--SEPTEMBER, 1967.
WEST VALLEY, N.Y., NUCLEAR FUEL SERVICES, INC., DOCKET 50201-21. 23 P. 1968, 12 TABS.
THE RESULTS OF NUCLEAR FUEL SERVICES, INC. ENVIRONMENTAL MONITORING PROGRAM FOR THE FIRST NINE MONTHS OF 1967 ARE SUMMARIZED. THE SAMPLE RESULTS OBTAINED ARE COMPARED TO THE PRE-OPERATIONAL STUDY MADE FROM JULY, 1963 TO JULY, 1965. FUTURE ENVIRONMENTAL RESULTS WILL BE REPORTED ON A SEMI-ANNUAL BASIS. THE PROGRAM INCLUDES SAMPLES OF AIRBORNE ACTIVITY, FALLOUT, FISH, MILK, MUD, SOIL, WATER AND VEGETATION. DATA ARE GIVEN FOR H-3 IN ENVIRONMENTAL WATER SAMPLES AND LIQUID WASTE.

WASTES, FALLOUT, FOOD, CROPS, MILK, DAIRY PRODUCTS, WATER, SOILS, FISH, VEGETATION, SR-90, I-129, AIR, CONCENTRATION, NEW YORK

07110

R B KEELY

NUCLEAR FUEL SERVICES, INC, WEST VALLEY, N Y

ENVIRONMENTAL REPORT NO 8, JANUARY--JUNE 1969

WEST VALLEY, N Y, NUCLEAR FUEL SERVICES, INC, DOCKET-50201-25 13 P, 1969, 11 FIGS

DURING THE FIRST HALF OF 1969, THE AVERAGE CONCENTRATION OF GROSS RADIOACTIVITY AND THE AVERAGE CONCENTRATION OF SPECIFIC RADIONUCLIDES IN SAMPLES OF AIR, FALLOUT, MILK, WATER, AND SILT CONTINUED TO BE LESS THAN APPLICABLE LIMITS OF THE U S ATOMIC ENERGY COMMISSION AND/OR THE FEDERAL RADIATION COUNCIL. AIR ACTIVITY CONTINUES TO DECREASE FROM PREOPERATIONAL LEVELS BECAUSE OF A MORATORIUM ON ATMOSPHERIC TESTING OF NUCLEAR WEAPONS. FALLOUT AT NPS SITE IS LESS THAN AVERAGE FOUND IN UNITED STATES PUBLIC HEALTH SERVICE COUNTRYWIDE NETWORK. THE INCREASE IN BETA ACTIVITY IN CATTARAUGUS CREEK SILT, REPORTED IN PREVIOUS REPORT, CONTINUED TO INCREASE DURING THIS PERIOD, BUT AT A LOWER RATE OF INCREASE. H-3 CONCENTRATION IN CATTARAUGUS CREEK IS SUMMARIZED FOR THE PERIOD 1965-69. H-3, RADIONUCLIDES, ENVIRONMENTAL MONITORING, RADIOACTIVE WASTES, FALLOUT, FOODS, CROPS, MILK, DAIRY PRODUCTS, WATER, SOILS, FISH, VEGETATION, SR-90, I-129, AIR, CONCENTRATION, NEW YORK

07111

R B KEELY AND T K WENSTRAND

NUCLEAR FUEL SERVICES, INC, WEST VALLEY, N Y

ENVIRONMENTAL REPORT NO 3, SEPTEMBER--DECEMBER 1967

WEST VALLEY, N Y, NUCLEAR FUEL SERVICES, INC, DOCKET-50201-22 23 P, 1968, 10 TABS, 5 REFS

SUMMARIZES RESULTS OF NUCLEAR FUEL SERVICES, INC, WEST VALLEY, NEW YORK, ENVIRONMENTAL MONITORING PROGRAM FOR THE LAST THREE MONTHS OF 1967. SAMPLE RESULTS ARE COMPARED TO THE PREOPERATIONAL STUDY MADE FROM JULY 1963 TO JULY 1965 AND TO AVAILABLE CURRENT UNITED STATES PUBLIC HEALTH SERVICE (USPHS) DATA. THE PROGRAM INCLUDES SAMPLES OF AIR ACTIVITY, FALLOUT, FISH, MILK, MUD, SOIL, WATER AND VEGETATION. DATA ARE REPORTED FOR H-3 IN ENVIRONMENTAL WATER AND LIQUID WASTES. H-3, RADIONUCLIDES, ENVIRONMENTAL MONITORING, RADIOACTIVE WASTES, FALLOUT, FOOD, CROPS, MILK, DAIRY PRODUCTS, WATER, SOILS, VEGETATION, SR-90, I-129, AIR, CONCENTRATION, NEW YORK

07112

R B KEELY AND D P WILCOX

NUCLEAR FUEL SERVICES, INC, WEST VALLEY, N Y

ENVIRONMENTAL REPORT NO 4, JANUARY--JUNE 1968

WEST VALLEY, N Y, NUCLEAR FUEL SERVICES, INC, DOCKET-50201-23 21 P, 1969, 10 TABS, REFS

SUMMARIZES RESULTS OF NUCLEAR FUEL SERVICES, INC, WEST VALLEY, NEW YORK, ENVIRONMENTAL MONITORING PROGRAM FOR THE FIRST SIX MONTHS OF 1968. THE PROGRAM INCLUDES SAMPLES OF AIR ACTIVITY, FALLOUT, FISH, MILK, MUD, SOIL, WATER AND VEGETATION. DATA IS GIVEN ON H-3 IN ENVIRONMENTAL WATER AND LIQUID WASTE.

H-3, RADIONUCLIDES, ENVIRONMENTAL MONITORING, RADIOACTIVE WASTES, FALLOUT, FOODS, CROPS, MILK, DAIRY PRODUCTS, WATER, SOILS, FISH, AIR, VEGETATION, SR-90, I-129, CONCENTRATION, NEW YORK

07113

R B KEELY AND D P WILCOX

NUCLEAR FUEL SERVICES, INC, WEST VALLEY, N Y

ENVIRONMENTAL REPORT NO 5, JULY--DECEMBER 1968

WEST VALLEY, N Y, NUCLEAR FUEL SERVICES, INC, DOCKET-50201-24 23 P, 1969, 9 TABS, REFS

THIS REPORT SUMMARIZES RESULTS OF NUCLEAR FUEL SERVICES, INC, WEST VALLEY, NEW YORK, ENVIRONMENTAL MONITORING PROGRAM FOR THE LAST SIX MONTHS OF 1968. SAMPLE RESULTS ARE COMPARED TO THE LIMITS OF THE ATOMIC ENERGY COMMISSION AND FEDERAL RADIATION COUNCIL, OR TO AVAILABLE CURRENT UNITED STATES PUBLIC HEALTH SERVICE (USPHS) DATA. THE PROGRAM INCLUDES SAMPLES OF AIR ACTIVITY, FALLOUT, FOOD CROPS, MILK, MUD AND WATER. DATA IS GIVEN ON H-3 IN ENVIRONMENTAL WATER AND LIQUID WASTE. H-3, RADIOACTIVE WASTES, ENVIRONMENTAL MONITORING, FALLOUT, FISH, RADIONUCLIDES, FOODS, CROPS, DAIRY PRODUCTS, SR-90, I-131, NEW YORK, MILK, SOILS, WATER, VEGETATION, RADIONUCLIDES, AIR, CONCENTRATION

07114

DONALD A MCKOWN

UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N MEX

HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM

LOS ALAMOS, N MEX, UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LAMS-2946 82 P, 1964, 87 REFS

U S AEC CONTRACT W-7405-ENG-36

87 PAPERS, SELECTED TO INTEREST HEALTH PHYSICS AND RADIATION PROTECTION PERSONNEL, ARE ABSTRACTED, AND A FEW BIBLIOGRAPHIES ARE LISTED. BIBLIOGRAPHY, HEALTH HAZARDS, ENVIRONMENTAL MONITORING, H-3, EQUIPMENT, RADIONUCLIDES, DOSIMETRY, SCINTILLATION COUNTERS, RADIATION EXPOSURE, PHYSIOLOGY

07115

D MCCONNON

BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, RICHLAND, WASH

THE USE OF WATER AS A SAMPLING MEDIUM FOR TRITIUM OXIDE

RICHLAND, WASH, BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, BNWL-CC-547 14 P, 1965, 4 FIGS, 5 TABS, 1 REF

U S AEC CONTRACT NO AT(45-1)-1830

SAMPLES OF H-3 CONTAMINATED AIR WERE PASSED AT A CONSTANT RATE THROUGH A GAS WASH BOTTLE FILLED WITH DISTILLED WATER. SAMPLES OF THE DISTILLED WATER WERE COLLECTED AND ANALYZED FOR H-3. THE SYSTEM PROVIDED A FAST QUALITATIVE METHOD FOR DETECTING CHANGES IN THE LEVEL OF H-3 IN THE AIR AROUND THE TEST REACTOR. THE DATA INDICATE THAT A SAMPLING TIME OF FIVE MINUTES OR MORE IS ADEQUATE FOR EQUILIBRIUM TO BECOME ESTABLISHED. RELATIVE HUMIDITY AND AIR TRITIUM CONCENTRATION HAD NO EFFECT ON THE EFFICIENCY OF THE SYSTEM TO DETECT TRITIUM OXIDE. A SURFACE CONTAMINATION SAMPLING TECHNIQUE IS ALSO PRESENTED WHICH USES DAMPENED 2 INCH X 2 INCH GAUGE PADS TO TAKE A WET SMEAR OF SURFACE AREAS. THIS SYSTEM ALSO OFFERS A RAPID MEANS OF DETECTING CONTAMINATED SURFACES. THE EFFICIENCY OF THE SURFACE METHOD RANGES FROM 60-88%.

BETA RADIATION, H-3, HANFORD PROJECT, AIR, ENVIRONMENTAL MONITORING, OXIDES, RADIONUCLIDES, SAMPLING, TRITIUM OXIDE, CONTAMINATION

07116

YVES SUTRA-POURCADE

COMMISSARIAT A L'ENERGIE ATOMIQUE, CHUSCLAN, FRANCE

MEANS OF DETECTING AND PROTECTING AGAINST TRITIUM

WEST MIFFLIN, PA, BETTIS ATOMIC POWER LABORATORY, WAPD-TRANS-102 100 P, 1968, 21 FIGS, 52 REFS (TRANSL OF CEA-R-3350, 1967)

LABORATORY TECHNIQUES ARE REPORTED FOR, AND IN THEIR ABSENCE, BIBLIOGRAPHIC STUDIES ARE DEVOTED TO THE MEASUREMENT OF ATMOSPHERIC AND LIQUID TRITIUM AND SURFACE CONTAMINATION AND TRITIUM DIFFUSION METHODS FOR MEASUREMENT, PROTECTION AND DECONTAMINATION ARE PRESENTED.

H-3, RADIONUCLIDES, ATMOSPHERIC TRITIUM, CONTAMINATION, INSTRUMENTS, DETECTION, DIFFUSION, DECONTAMINATION

07117

ALLYN H SEYMOUR

UNIVERSITY OF WASHINGTON, COLLEGE OF FISHERIES, LABORATORY OF RADIATION ECOLOGY, SEATTLE, WASH

COLUMBIA RIVER STUDIES, ANNUAL PROGRESS REPORT, 1968-1969

SEATTLE, UNIVERSITY OF WASHINGTON, COLLEGE OF FISHERIES, LABORATORY OF RADIATION ECOLOGY, RLO-2047-5 92 P, 1969, FIGS, TABS, REFS

EXPERIMENTS WERE CONDUCTED IN WHICH OYSTER EGGS WERE PLACED IN 500 ML OF SEAWATER CONTAINING VARIOUS CONCENTRATIONS OF H-3, Y-90, AND SR-90. THE RESULTS OF THESE EXPERIMENTS SUGGEST THE CONCENTRATION REQUIRED TO PRODUCE ABNORMAL LARVAE IS NO GREATER FOR Y-90 ALONE THAN FOR SR-90 PLUS Y-90. ABNORMAL LARVAE WERE PRODUCED BY H-3 AT APPROX. THE SAME CONCENTRATION AS Y-90 OR Y-90 PLUS SR-90 WHICH IS ABOUT 10(-3) CI/L. (APPEND. C OF THIS REPORT.)
H-3, Y-90, SR-90, RADIONUCLIDES, CRASSOSTREA, OYSTERS, MOLLUSKS, BENTHIC FAUNA, BENTHOS, CONCENTRATION, RADIATION EFFECTS, GENETIC EFFECTS

07118

C. F. SMITH, JR.
UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.
BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES.

LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-72152. 14 P., 1969, 7 FIGS., 5 REFS. (ALSO U.S. AEC REPORT PNE-G-56 AND CONF-700101, PP. 818-830.)

THE GASBUGGY EXPERIMENT PRESENTED A UNIQUE OPPORTUNITY TO INVESTIGATE THE BEHAVIOR OF RADIONUCLIDES OVER AN EXTENDED PERIOD OF TIME IN AN UNUSUAL ENVIRONMENT. DURING THE INITIAL 6 MONTHS FOLLOWING DETONATION, THE CHIMNEY REENTRY WELL WAS SHUT-IN, AND THE NUCLEAR CHIMNEY SERVED AS A CHEMICAL AND RADIOCHEMICAL REACTION VESSEL. IT WAS FOUND DURING THIS PERIOD THAT THE ENTIRE AMOUNT OF K-85 WAS PRESENT IN THE GAS PHASE WITH NO ENTRAPMENT ENCOUNTERED. LITTLE AR-39 WAS PRESENT IN THE GAS.

ABOUT 7.5 CI OF C-14 WERE FOUND IN THE GAS ALONG WITH APPROXIMATELY 4 GRAMS OF TRITIUM. THERE WAS LITTLE ISOTOPIC EXCHANGE FOLLOWING SHUT-IN AND THE DILUTIONS COULD BE ACCOUNTED FOR BY THE INFLUX OF FORMATION GAS INTO THE CHIMNEY. AFTER THE FIRST MONTH THE SPECIFIC ACTIVITY OF MOST OF THE GAS COMPONENTS WERE RELATIVELY CONSTANT WITH THE EXCEPTION OF HT WHICH DECREASED EXPONENTIALLY. APPROX. ONE G OF TRITIUM WAS ASSUMED TO BE TAKEN UP IN WATER. THE EQUILIBRIUM SEEN BETWEEN THE GAS AND THE CAVITY WATER INDICATES THAT THERE WAS NO EXCHANGE BETWEEN THE GAS AND EITHER HT OR WATER AFTER THE INITIAL HIGH TEMPERATURE PERIODS. ATTEMPTS TO FIND OTHER RADIO-NUCLIDES IN THE GAS PRODUCED NEGATIVE RESULTS.

NATURAL GAS, FLOWSHARE PROGRAM, METHANE, H-3, TRITIUM OXIDE, NEW MEXICO, KR-85, AR-37, AR-39, XB-127, C-14, RADIONUCLIDES, NUCLEAR CHIMNEYS, SPECIFIC ACTIVITIES, CONCENTRATIONS

07119

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TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS.

LOWER HUTT, NEW ZEALAND, DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH, INSTITUTE OF NUCLEAR SCIENCES, INS-R-29. 16 P., 1963, 3 TABS., 1 REF.

TRITIUM CONCENTRATIONS OF WATER FROM GEOTHERMAL BORES AT WAIRAKEI, WERE MEASURED TO DETERMINE IF THEY WERE DILUTED WITH RECENT T GROUND WATER. CHLORIDE CONTENT AND ENTHALPY OF THE

WATER WERE USED IN THE CORRELATION ATTEMPTS. IT WAS CONCLUDED THAT THE RESULTS REPORTED DO NOT LEND THEMSELVES TO ANY REASONABLE EXPLANATION.

H-3, RADIONUCLIDES, GROUND WATER, WATER, CHLORIDES, CONCENTRATION, CIRCULATION, DILUTION, NEW ZEALAND, MIXING, TRITIATED WATER, BORES, GEOTHERMAL WATERS

07120

J. C. COURTNEY
ALLIS-CHALMERS MANUFACTURING CO., WASHINGTON, D.C.
HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS.

WASHINGTON, D.C., ALLIS-CHALMERS MANUFACTURING CO., ACNP-61535 (REV. 1); (EGCR-STUDY-IV-IV-313 (REV. 1)). 176 P., 1963, FIGS., 11 REFS.

U.S. AEC CONTRACT NO. AT(10-1)-925.

DOSES WERE CALCULATED FOR PERSONS OFF SITE AND IN THE EGCR CONTROL FOLLOWING THE MAXIMUM CREDIBLE ACCIDENT (DEPRESSURIZATION), AND FOR THE PUBLIC DUE TO NORMAL STACK RELEASE. WITH THE EXPERIMENTAL GAS COOLED REACTOR, THE SOURCES OF NORMAL STACK RELEASE OF ACTIVITY ARE AR-41 DUE TO ACTIVATION OF SHIELD COOLANT AIR, H-3 FROM THE H-3(N,P) H-3 REACTION WITH REACTOR COOLANT; AND FISSION PRODUCT CONTAMINATION OF THE COOLANT. MAXIMUM GROUND CONCENTRATION OF RADIOACTIVITY RELEASED FROM THE STACK OCCURS AT 9095 METERS DURING INVERSION CONDITIONS AND AT 407 METERS FOR LAPSE CONDITIONS.

THE MAXIMUM CREDIBLE ACCIDENT, DEFINED AS A DEPRESSURIZATION ACCIDENT WHICH SUPPRESSES CORE COOLANT FLOW FOR 30 SECONDS, IS SCORED FOR DOSAGES TO THE THYROID, BONE AND WHOLE BODY.

H-3, AR-41, HE-3, RADIONUCLIDES, RADIATION DOSE, RADIOLOGICAL HAZARDS, NUCLEAR FUEL PLANTS, MAXIMUM CREDIBLE ACCIDENT, THYROID, BONE, WHOLE BODY EXPOSURE, NUCLEAR REACTORS

07121

U.S. PUBLIC HEALTH SERVICE. SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY.

PROJECT GASBUGGY OFF-SITE RADIOLOGICAL SAFETY REPORT GB-2R PHASE I PROGRAM.

LAS VEGAS, NEV., U.S. PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, SWRHL-105R (PNE-G-65). 23 P., 1970, 2 FIGS., 5 TABS., 1 REF.

THE MONITORING AND DOSIMETRY OPERATIONS SHOWED NO DETECTABLE RADIOACTIVITY IN THE OFF-SITE AREA. THE ENVIRONMENTAL SAMPLING PROGRAM SHOWED NO RADIOACTIVITY ABOVE BACKGROUND IN DAILY AIR SAMPLES, OR WATER SAMPLES. LEVELS OF TRITIUM ABOVE BACKGROUND WERE FOUND IN SPECIAL AIR SAMPLES WHICH COLLECTED MOISTURE FROM THE AIR AND ALSO IN SOIL AND VEGETATION SAMPLES. NONE OF THE TRITIUM RESULTS SHOWED LEVELS WHICH PRESENTED A HAZARD TO ANY PEOPLE OR LIVESTOCK LIVING IN THE OFF-SITE AREA. (AUTH.)

WATER, VEGETATION, SOILS, H-3, RADIONUCLIDES, CONCENTRATION, ATMOSPHERE (TERRESTRIAL), PROJECT GASBUGGY, SAMPLING NETWORK, FLOWSHARE PROGRAM

07122

U.S. PUBLIC HEALTH SERVICE. SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY.

ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE.

LAS VEGAS, NEV., U.S. PUBLIC HEALTH SERVICE, SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, SWRHL-100R (PNE-G-63). 43 P., 1970, 5 FIGS., 11 TABS., 7 REFS.

TRITIUM, CARBON-14, AND KRYPTON-85 WERE DETECTED. THE HIGHEST LEVELS OF TRITIUM ACTIVITY WERE FOUND IN THE NOV. 1968 SAMPLES. ACTIVITY LEVELS DROPPED TO BACKGROUND BY JULY 1969, THEN ROSE SLIGHTLY IN SEPT. AND OCT. MAXIMUM C-14 LEVELS WERE THREE TIMES NORMAL BACKGROUND. LOW LEVELS OF KR-85 WERE DETECTED IN AERIAL CRYOGENIC SAMPLES IN OCT. 1969. NONE OF THE ENVIRONMENTAL SURVEILLANCE NETWORKS OPERATED BY THE BRH SHOWED ANY EVIDENCE OF ACTIVITY BEYOND THE 10-MILE GASBUGGY SURVEILLANCE AREA. IT WAS CONCLUDED FROM THE RESULTS OF THIS SURVEILLANCE THAT PRODUCTION TESTING OF THE GASBUGGY RE-ENTRY WELL DID NOT CREATE RADIOACTIVITY LEVELS IN THE ENVIRONMENT WHICH APPROACHED ANY APPRECIABLE FRACTION OF THE RADIATION PROTECTION GUIDES.

PROJECT GASBUGGY, FLOWSHARE PROGRAM, ENVIRONMENTAL MONITORING, FLARING, H-3, C-14, KR-85, RADIONUCLIDES, PROJECT GASBUGGY, FLOWSHARE PROGRAM, ENVIRONMENTAL MONITORING, ATMOSPHERE (TERRESTRIAL), SNOW, PRECIPITATION (METEOROLOGICAL), VEGETATION, SOILS, FLARING, CONCENTRATION

07123

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EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. APPENDICES.

RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORIES, BNWL-1341 (APP.). 125 P., 1970, TABS.

THIS SUPPLEMENT REPORT IS A COMPILATION OF RESULTS OBTAINED FROM BOTH RADIOCHEMICAL ANALYSES OF ENVIRONMENTAL SAMPLES AND FROM RADIOLOGICAL MEASUREMENTS MADE IN THE HANFORD ENVIRONS DURING 1968. DATA ARE PRESENTED FOR THE CONCENTRATION OF H-3 IN COLUMBIA RIVER AT PRIEST RAPIDS DAM AND RICHLAND. (FOR DISCUSSION OF DATA SEE EIA NO. 07061.)

ENVIRONMENTAL MONITORING, HANFORD PROJECT, CONCENTRATION, RADIONUCLIDES, H-3, COLUMBIA RIVER, RIVERS

L. E. PEINENDEGEN

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PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE. GENERAL REVIEW.
IN- BIOLOGICAL EFFECTS OF TRANSMUTATION AND DECAY OF INCORPORATED RADIOISOTOPES. VIENNA, INTERNATIONAL
ATOMIC ENERGY AGENCY. PP. 1-15, 1968, 1 TAB., 117 REFS. (PANEL PROCEEDINGS SERIES, STI/PUB/183)

REVIEWS PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN THE LIFE SCIENCES. THREE
AREAS OF INTEREST WERE SELECTED FOR DISCUSSION CONCERNING- A) THE TRACER MOLECULE, B) ASPECTS
OF CELLULAR METABOLISM, AND C) THE TOXICITY OF THE INCORPORATED ISOTOPES. IN RESPECT OF THE TRACER
MOLECULE, SPECIFICITY OF LABELLING (ESPECIALLY THAT WITH TRITIUM), RADIOCHEMICAL PURITY, BIOLOGICAL
STABILITY (PARTICULARLY IN THE CASE OF TRITIATED PRECURSORS) AND KINETIC ISOTOPE EFFECTS ARE DISCUSSED.

THE DISCUSSION ON THE TOXICITY OF INCORPORATED ISOTOPES GIVES AN INTRODUCTION TO TRANSMUTATION
EFFECTS, ASIDE FROM RADIATION EFFECTS AND CONSIDERS THE TRANSMUTATION EFFECTS OF TRITIUM, C-14,
S-35 AND P-32. ATTENTION IS CALLED TO THE POSSIBLE BIOLOGICAL IMPLICATIONS OF THE AUGER EFFECT.
H-3, C-14, S-35, P-32, RADIONUCLIDES, RADIOBIOLOGY, TRACERS, CELLULAR METABOLISM, TOXICITY, GENETIC
EFFECTS, RADIATION EFFECTS, REVIEWS

07125

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LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO
BACTERIA AND BACTERIOPHAGES.

IN- BIOLOGICAL EFFECTS OF TRANSMUTATION AND DECAY OF INCORPORATED RADIOISOTOPES. VIENNA, INTERNATIONAL
ATOMIC ENERGY AGENCY. PP. 29-64, 1968, 17 FIGS., 6 TABS., 44 REFS. (PANEL PROCEEDINGS SERIES,
STI/PUB/183)

SOME EFFECTS OF TRITIUM DECAY ON BACTERIA AND BACTERIOPHAGES, USING LABELLED COMPOUNDS THAT
ARE INCORPORATED PREFERENTIALLY INTO DNA, RNA, OR PROTEIN, WERE STUDIED. A RELATIVELY HIGH KILLING
EFFICIENCY, THE PROBABILITY THAT A SINGLE DECAY PRODUCES LOSS OF COLONY- FORMING ABILITY IN BACTERIA
OR LOSS OF PLAQUE-FORMING ABILITY IN BACTERIOPHAGES, WAS OBSERVED FOR THYMIDINE-METHYL-H-3 DECAY,
BUT WAS THOUGHT TO BE DUE TO BETA-PARTICLE IONIZATION DAMAGE. THE MOST DEFINITIVE EXPERIMENTS
INVOLVED A COMPARISON OF KILLING EFFICIENCIES FOR DECAYS ORIGINATING AS THYMIDINE-METHYL-H-3 IN
PHAGE DNA AND AS AMINO ACID-H-3 IN PHAGE PROTEIN WITH THE CALCULATED BETA-PARTICLE PATH LENGTH
THROUGH THE DNA IN THE TWO CASES. RADIATION-DOSE CALCULATIONS TO MANY DIFFERENT BACTERIAL SUB-VOLUMES
WERE DETERMINED FOR SEVERAL DIFFERENT DISTRIBUTIONS OF RADIOACTIVITY.

H-3, RADIONUCLIDES, TRITIATED COMPOUNDS, RADIATION EFFECTS, GENETIC EFFECTS, RADIOACTIVE DECAY,
BACTERIA, MICROORGANISMS, BACTERIOPHAGES, LETHALITY, MUTATIONS, ESCHERICHIA, RADIATION DOSE

07126

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INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA.

IN- BIOLOGICAL EFFECTS OF TRANSMUTATION AND DECAY OF INCORPORATED RADIOISOTOPES. VIENNA, INTERNATIONAL
ATOMIC ENERGY AGENCY. PP. 65-78, 1968, 4 TABS., 23 REFS. (PANEL PROCEEDINGS SERIES, STI/PUB/183)

ADULT MALES WERE INJECTED WITH THE TRITIUM-LABELLED NUCLEOSIDES, AND SIX SUCCESSIVE TWO-DAY
BROODS WERE SCORED FOR THE INDUCTION OF RECESSIVE LETHAL MUTATIONS. MAXIMUM SENSITIVITY TO MUTATION
INDUCTION WAS OBSERVED IN THE BROODS CORRESPONDING TO SPERMATOCYTES AND LATE SPERMATOGENIA. CHANGES
IN EITHER SPECIFIC ACTIVITY (1.6-9.3 CI/MM) OR THE TOTAL ACTIVITY (250-1000 CI/ML) OF TRITIUM IN
THE LABELLED NUCLEOSIDES DID NOT RESULT IN SIGNIFICANT CHANGES OF THE RATE OF MUTATION INDUCTION.

URIDINE WITH TRITIUM IN THE 5 POSITION OF THE PYRIMIDINE RING PRODUCED APPROXIMATELY TWICE AS
MANY LETHALS AS AN EQUIVALENT DOSE OF EITHER 6H-3-URIDINE OR 6-H-3-THYMIDINE. THIS OBSERVATION
IS CONSIDERED AS AN INDICATION FOR A POSSIBLE TRANS- MUTATION EFFECT AT THE SITE OF TRITIUM DECAY.
H-3, RADIONUCLIDES, TRITIATED URIDINE, TRITIATED THYMIDINE, TRITIATED COMPOUNDS, DROSOPHILA, DIPTERA,
INSECTS, RADIOSENSITIVITY, RADIATION EFFECTS, GENETIC EFFECTS, MUTATIONS, SPECIFIC ACTIVITIES

07127

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THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS.

IN- BIOLOGICAL EFFECTS OF TRANSMUTATION AND DECAY OF INCORPORATED RADIOISOTOPES. VIENNA, INTERNATIONAL
ATOMIC ENERGY AGENCY. PP. 91-107, 1968, 8 FIGS., 3 TABS., 43 REFS. (PANEL PROCEEDINGS SERIES,
STI/PUB/183)

FROM PRELIMINARY EXPERIMENTS WITH HELA CELLS, H-3 DECAYS HAVE LITTLE EFFECT ON DNA SYNTHESIS
UNTIL CELLS HAVE PASSED THROUGH SEVERAL CELL CYCLES. AFTER TWO CELL CYCLES A MARKED REDUCTION
OCCURS IN DNA SYNTHESIS IN CELLS GROWN IN HTDR-3 AS COMPARED TO CTDR-14. SUICIDE EXPERIMENTS WITH
MOUSE LYMPHOMA CELLS DEMONSTRATE THAT THE KILLING EFFICIENCY PER H-3 DECAY DEPENDS ON THE LOCATION
OF THE H-3 ATOMS. SURVIVAL CURVES FOR CELL KILLING FROM DECAYS IN ONE DNA STRAND, NUCLEAR RNA,
WHOLE-CELL RNA, AND WHOLE-CELL RNA PLUS PROTEIN ARE ALL EXPONENTIAL WITH NO SHOULDER. THE SURVIVAL
CURVE FOR H-3 DECAYS IN BOTH DNA STRANDS IS SIMILAR TO THAT FOR SINGLE-STRAND LABEL AT LOW NUMBERS
OF DECAYS BUT IS STEEPER ABOVE 400 DECAYS PER CELL. THE D-37 DOSES, IN DECAYS PER CELL, ARE-
60 (DOUBLE-STRAND DNA), 175 (SINGLE-STRAND DNA), 650 (NUCLEAR RNA), 1000 (WHOLE-CELL RNA), AND
1400 (WHOLE-CELL POOL PLUS PROTEIN). ALTHOUGH THESE RESULTS DEMONSTRATE THAT THE SITE OF H-3 DECAYS
IS IMPORTANT AND THAT DECAYS ARE MOST EFFICIENT WHEN THEY OCCUR IN DNA, A CLEAR DISTINCTION BETWEEN
TRANSMUTATION AND BETA-PARTICLE IRRADIATION CANNOT BE MADE.

H-3, RADIONUCLIDES, TRITIATED THYMIDINE, TRITIATED COMPOUNDS, THYMIDINE, METABOLISM, CELLS, MAMMALS,
RADIATION DOSE, GENETIC EFFECTS, LETHALITY, RADIOACTIVE DECAY, RADIATION EFFECTS, DNA SYNTHESIS

07128

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EFFET LÉTAL DE LA DESINTÉGRATION D'ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORÉS DANS UNE BACTÉRIE.

(LETHAL EFFECT ON BACTERIAL DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32).

IN- BIOLOGICAL EFFECTS OF TRANSMUTATION AND DECAY OF INCORPORATED RADIOISOTOPES. VIENNA, INTERNATIONAL
ATOMIC ENERGY AGENCY. PP. 147-163, 1968, 7 FIGS., 1 TAB., 22 REFS. (PANEL PROCEEDINGS SERIES,
STI/PUB/183)

THE DECAY OF H-3 ATOMS INCORPORATED INTO CERTAIN MACROMOLECULES OF A BACTERIUM CAUSES STERILIZATION
THROUGH IONIZATION BY THE BETA- PARTICLE EMITTED; TRANSMUTATION IS OF NEGLIGIBLE IMPORTANCE. THIS
SELF-IRRADIATION IS COMPARABLE IN EFFECT WITH X-RAYS AND IS AFFECTED IN A SIMILAR MANNER BY THE
SAME FACTORS- TEMPERATURE, PRESENCE OF A RADIOPROTECTOR, RADIOSENSITIVITY OF THE STRAIN. DECAY
OF C-14 OR P-32 ATOMS INCORPORATED INTO BACTERIAL DNA IS LETHAL BECAUSE OF THE TRANSMUTATION EFFECTS;
IONIZATIONS PRODUCED BY EMITTED BETA-PARTICLES MAY BE DISREGARDED. SURVIVAL CURVES FOR P-32 TRANSMUTATIONS
DEPEND ON THE EXPERIMENTAL CONDITIONS. SOME OF THE RESULTS OBTAINED WITH P-32 ARE SIMILAR TO THOSE
OBTAINED WITH X-RAYS, E.G. EFFECTS OF TEMPERATURE, RADICAL CAPTURE AND OXYGEN, WHILE OTHERS ARE
SIMILAR TO THOSE OF U.V. LIGHT, E.G. EFFECT OF GROWTH CONDITIONS. COMPARATIVE TESTS MADE WITH
P-32 INDICATE THAT THE RECOIL ENERGY OF TRANSMUTATION IS NOT THE PHENOMENON RESPONSIBLE FOR THE
LETHAL EFFECT OBSERVED. COMPARISON OF THE RESULTS OBTAINED AFTER X-IRRADIATION OR DECAY OF H-3
OR P-32 INCORPORATED INTO THE DNA OF BACTERIA OF THE SAME STRAIN OF *E. COLI* SHOWS THAT THE EFFICIENCY
OF A P-32 TRANSMUTATION IS ABOUT FOUR TIMES GREATER THAN THAT OF AN IONIZATION PRODUCED AT RANDOM
WITHIN THE SAME DNA. (FROM AUTH. TRANSL.)

H-3, C-14, P-32, RADIONUCLIDES, RADIOACTIVE DECAY, RADIATION EFFECTS, BACTERIA, MICROORGANISMS,
GENETIC EFFECTS, LETHALITY

07129

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ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES.

OF A SEMINAR HELD IN VIENNA, 24-28 MARCH 1969. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 35-60, 1969, 8 FIGS., 8 TABS., 62 REFS. (STI/PUB/266; U.S. AEC REPORT NO. CONF-690317)

REVIEWS PRODUCTION PROCESSES, BOTH IN THE ENVIRONMENT AND IN NUCLEAR AND THERMONUCLEAR ENERGY SOURCES. U.S. POWER REACTOR EXPERIENCE INDICATES THAT THE PRIMARY SOURCE OF TRITIUM PRODUCTION IN BOILING LIGHT-WATER REACTORS IS TERNARY FISSION, WHILE NEUTRON CAPTURE REACTIONS IN B-10 AND LI-7 ARE THE PRINCIPAL SOURCES IN PRESSURIZED-WATER REACTORS EMPLOYING CHEMICAL SHIM. TRITIUM FROM DEUTERIUM ACTIVATION IN HEAVY-WATER MODERATED REACTORS FAR EXCEEDS THE PRODUCTION OF TRITIUM BY TERNARY FISSION. ENVIRONMENTAL SURVEILLANCE DATA SHOW NO APPARENT INCREASE IN TRITIUM CONCENTRATIONS IN WATER SOURCES IN THE VICINITY OF LIGHT-WATER REACTORS. DUE TO TRITIUM RETENTION BY THE FUEL CLADDING, A MAJOR PORTION OF THE TRITIUM PRODUCED BY TERNARY FISSION WILL BE RELEASED DURING PROCESSING OF THE SPENT REACTOR FUEL. ESTIMATED RELEASES FROM FUEL REPROCESSING PLANTS ARE COMPARED WITH DISCHARGE DATA FROM OPERATING PLANTS. FORECASTS OF FUTURE TRITIUM PRODUCTION FROM NUCLEAR REACTORS ARE PROVIDED UP UNTIL THE YEAR 2000. THESE ESTIMATES ARE COMPARED WITH EXISTING EQUILIBRIUM LEVELS OF NATURALLY-OCCURRING TRITIUM AND WITH THE DECREASING INVENTORY OF TRITIUM REMAINING FROM ATMOSPHERIC NUCLEAR TESTING. THE IMPLICATIONS OF THESE PROJECTIONS ARE EVALUATED FROM A PUBLIC HEALTH VIEWPOINT.

A DISCUSSION OF THE POSSIBLE IMPACT OF NEW THERMONUCLEAR ENERGY SOURCES ON ENVIRONMENTAL TRITIUM CONCENTRATIONS IS ALSO INCLUDED.
H-3, RADIONUCLIDES, CONTAMINATION, NUCLEAR REACTORS, REACTORS, NUCLEAR POWER, NUCLEAR FUEL PLANTS, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, CONCENTRATION, LAKES

07130

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TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST.

IN- ENVIRONMENTAL CONTAMINATION BY RADIOACTIVE MATERIALS. PROCEEDINGS OF A SEMINAR HELD IN VIENNA, 24-28 MARCH 1969. VIENNA INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 167-174, 1969, 1 FIG., 4 TABS., 5 REFS. (STI/PUB/226; U.S. AEC REPORT NO. CONF-690317)

THIS REPORT PRESENTS RESULTS OF A STUDY TO EVALUATE THE UPTAKE OF TRITIUM BY SELECTED CROPS WHICH ARE IMPORTANT TO NEVADA'S AGRICULTURAL ECONOMY. COMPARISONS MADE BETWEEN RADISHES, POTATOES, SWEET CORN, BUSH BEANS, WATER MELONS, AND ONIONS GROWN ON THE NEVADA TEST SITE FARM AND SIMILAR PRODUCE PURCHASED IN THE LOCAL MARKETS INDICATED A SIGNIFICANT DIFFERENCE BETWEEN THE TRITIUM CONCENTRATIONS AT THE 99-1/2% CONFIDENCE LEVEL. MANY OF THE ITEMS PURCHASED IN THE LOCAL MARKETS WERE BELOW THE MINIMUM SENSITIVITY OF THE ANALYTICAL SYSTEM USED IN THIS STUDY. THE LEVELS IN THE NEVADA TEST SITE CROPS RANGED FROM 2.0 TO 3.0 PCI/G OF DRY TISSUE, OR 3.00 TO 4.87 PCI/M OF TISSUE WATER. ALTHOUGH THE CONCENTRATIONS FOUND ARE OF LITTLE SIGNIFICANCE AS FAR AS TOTAL DOSE TO HUMANS IS CONCERNED, THIS STUDY HAS INDICATED THAT TRITIUM IS AVAILABLE OVER CONSIDERABLE PERIODS OF TIME AND DOES NOT LEAVE THE ENVIRONMENT VIA EVAPORATION AS HAS BEEN SUGGESTED.

H-3, RADIONUCLIDES, UPTAKE, CROPS, NEVADA TEST SITE, SEDAN, PLOWSHARE PROGRAM, CONCENTRATION, DISTRIBUTION, SOIL PROFILES, VEGETABLES, CORN, RADISHES, POTATOES, BEANS, MELONS, ONIONS, ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING

07132

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ANALYSIS AND PUBLIC HEALTH ASPECTS OF ENVIRONMENTAL TRITIUM.

IN- RADIONUCLIDES IN THE ENVIRONMENT. SYMPOSIUM HELD IN SAN FRANCISCO, CALIF., 1-3 APRIL 1968. E. C. PREILING, CHMN. WASHINGTON, D.C., AMERICAN CHEMICAL SOCIETY, PP. 419-426, 1970, 3 FIGS., 12 REFS. (ADVANCES IN CHEMISTRY SERIES 93)

AN ADVANCED DIOXANE-BASED LIQUID SCINTILLATION SOLUTION IS DEVELOPED WHICH INCORPORATED 5 ML OF WATER. A NEW DETERGENT, TRITON- 101, IN ASSOCIATION WITH P-XYLENE IS USED FOR THE SUSPENSION OF 10 ML OF WATER WITH A Y VALUE OF APPROXIMATELY 0.5 NCI/L. THE APPLICATION OF A NEW INSTRUMENTAL TECHNIQUE WITH THREE PHOTOMULTIPLIERS DECREASES FURTHER THE Y VALUE OF BOTH MIXTURES. A TETRA CYLINDER WITH A VOLUME OF 250-300 ML IS USED AS SAMPLE CONTAINER FOR LOW LEVEL COUNTING WITH A Y VALUE OF APPROX. 0.2 NCI/L. SELECTED RESULTS OF SAMPLES COLLECTED DURING 1967 ARE REPORTED, AND THE RADIATION DOSE TO THE POPULATION OF THE UNITED STATES FROM TRITIUM IS ESTIMATED TO BE APPROX. 0.2 MREM/YR.

H-3, RADIONUCLIDES, RADIOASSAY, LIQUID SCINTILLATION COUNTING, RADIATION DOSE

07133

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ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES- GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS.

IN- ISOTOPES IN HYDROLOGY. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 14-16 NOVEMBER, 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 73-91, 1967, 7 FIGS., 3 TABS., 21 REFS. (PROCEEDINGS SERIES, STI/PUB/141.)

A MODEL IS DERIVED WHICH ALLOWS A QUANTITATIVE EVALUATION OF WINE TRITIUM DATA. IT IS SHOWN THAT THE TRITIUM CONTENT OF A WINE SAMPLE IS NOT DETERMINED EXCLUSIVELY BY WATER TAKEN UP BY THE ROOTS, BUT IS ALSO INFLUENCED TO A LARGE EXTENT BY DIRECT EXCHANGE WITH ATMOSPHERIC MOISTURE. THE SOIL-WATER FRACTION AMOUNTS NORMALLY TO NOT MORE THAN 40%. THUS, WINE IS A SAMPLE PARTLY OF ATMOSPHERIC MOISTURE AT GROUND LEVEL, PARTLY OF SOIL MOISTURE, INTEGRATED OVER A PERIOD AROUND THREE WEEKS BEFORE VINTAGE. THE TRITIUM CONTENT OF TWO SETS OF WINE SAMPLES ORIGINATING FROM TWO SELECTED SITES IN THE FEDERAL REPUBLIC OF GERMANY AND DATING BACK TO 1949 IS REPORTED. FOR THE PERIOD SINCE RECORDS OF THE TRITIUM CONTENT OF RAIN IN EUROPE HAVE BECOME AVAILABLE COMPARISONS OF WINE TRITIUM WITH REPORTED TRITIUM ACTIVITIES OF RAIN ARE IN FAVOR OF THE MODEL OUTLINED. FOR THE PERIOD BEFORE 1955 THE TRITIUM ACTIVITY OF THE ANNUAL GROUNDWATER RECHARGE, INCLUDING PRE-THERMONUCLEAR RECHARGE IN CENTRAL EUROPE, IS ESTIMATED FROM THE WINE DATA.

H-3, RADIONUCLIDES, GROUND WATER, WATER, SURFACE WATERS, EUROPE, WINES, CONCENTRATION, CASTLE TESTS, RUNOFF, RAINFALL, PRECIPITATION (METEOROLOGICAL), WESER RIVER, RIVERS, MODELS, GERMANY

07134

U. ZIMMERMANN, D. EHMALT, AND K. O. MUENNICH
HEIDELBERG UNIVERSITY, PHYSICAL INSTITUTE, GERMANY
SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION- CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER.

IN- ISOTOPES IN HYDROLOGY. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 14-16 NOVEMBER, 1966. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 567-585, 1967, 17 FIGS., 1 TAB., 17 REFS. (PROCEEDING SERIES, STI/PUB/141.)

AN ARTIFICIAL RAINFALL SPIKED WITH TRITIUM, MARKS THE BOUNDARY BETWEEN OLDER RAIN-WATER BELOW AND YOUNGER RAIN-WATER ABOVE. WHEN THE TRACE MARK HAS REACHED A CERTAIN DEPTH THE AMOUNT OF SOIL WATER ABOVE THE TRACER MARK GIVES THAT FRACTION OF THE RAIN FALLEN SINCE THE DATE OF TRACER INPUT.

A THEORETICAL DISCUSSION OF DISPERSION IS GIVEN. LARGER DISPERSION IS USUALLY COMBINED WITH A SCATTER IN THE POSITION OF THE TRACER MAXIMUM IN PARALLEL CORES. THE CHANGE IN STABLE ISOTOPE COMPOSITION OF THE SOIL WATER DURING THE DOWNWARD MOVEMENT HAS ALSO BEEN STUDIED IN DETAIL. EXPERIMENTS SHOW THAT PLANT TRANSPIRATION RESULTS IN PRACTICALLY NO ISOTOPIC ENRICHMENT OF THE SOIL WATER. UNDER CENTRAL EUROPEAN CONDITIONS A BARE SOIL MAY HOWEVER SHOW A DEUTERIUM ENRICHMENT UP TO ABOUT 20% IN THE TOP LAYERS. EVAPORATION FROM THE SOIL AND THEREFORE ENRICHMENT IS STRONGER SUPPRESSED BY PLANT COVER. ENRICHMENT IN DENSELY PLANTED SOIL IS QUITE SMALL (LESS THAN 5% FOR DEUTERIUM).
H-3, RADIONUCLIDES, TRACERS, SOIL MOISTURE, MOVEMENT, SOILS, EVAPOTRANSPIRATION, RAINWATER, DISPERSION, DEUTERIUM, ENRICHMENT

07135

J. SCHWIBACH
BUNDESMINISTERIUM FÜR WISSENSCHAFTLICHE FORSCHUNG, BAD GODESBERG, GERMANY
ZUR FRAGE DER FESTSETZUNG HOCHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWÄSSER.
(THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING

WASTE WATER.)

IN- STRAHLENSCHUTZPROBLEME BEI DER FREISETZUNG UND INKORPORATION RADIOAKTIVER STOFFE. J. HACKE AND W. JACOBI, EDS. U.S. ATOMIC ENERGY COMMISSION REPORT CONF-690540. PP. 43-56, 1969, 18 REFS.

TRITIUM PRODUCTION AND RELEASE ARE DISCUSSED FOR VARIOUS TYPES OF REACTORS. PROJECTION OF THE NO. OF NUCLEAR POWER STATIONS TO EXIST IN GERMANY BY 1980 LEADS TO THE CONCLUSION THAT THE RELEASE OF POWER REACTOR WASTE WATER INTO MAJOR RIVERS LIKE THE RHINE AND ELBE WILL RESULT IN HAZARDOUS H-3 DOSES. APPRECIABLE GENETIC DAMAGE WOULD RESULT FROM THE USE OF THESE RIVER SYSTEMS AS A POTABLE WATER SUPPLY FOR THE POPULATION MASS IN THIS AREA. THE POSSIBILITIES FOR REDUCING THE RADIATION BURDEN TO THE POPULATION BY THE INJECTION OF H-3 INTO DEEP SUBSURFACE CAVITIES, BY COLLECTING IT IN CONTAINERS FOR SUBMERGENCE INTO THE OCEAN, AND BY FREE RELEASE OF H-3-CONTAINING WASTE WATER INTO THE SEA FAR FROM THE SHORELINE ARE ANALYZED. (NSA 24, NO. 27312)

H-3, RADIONUCLIDES, NUCLEAR RACTORS, REACTORS, NUCLEAR POWER INDUSTRY, GERMANY, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, RADIATION DOSE, RIVERS, OCEANS

07136

W. D. ARNOLD AND D. J. CROUSE

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.

RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE.

IN- SYMPOSIUM ON ENGINEERING WITH NUCLEAR EXPLOSIVES; PROCEEDINGS. HELD IN LAS VEGAS, NEVADA, 14-16 JANUARY 1970. BY THE AMERICAN NUCLEAR SOCIETY. WASHINGTON, D.C., U.S. ATOMIC ENERGY COMMISSION, CONF-700101. PP. 1507-1612, 1970, 5 FIGS., 6 TABS., 5 REFS.

AVAILABILITY- NTIS.

WHEN OIL SHALE WAS HEATED IN SEALED FLASKS WITH TRITIATED WATER VAPOR OR WITH TRITIATED HYDROGEN, BOTH THE SHALE AND THE OIL SUBSEQUENTLY RETORTED FROM THE SHALE CONTAINED TRITIUM. THERE WAS MUCH LESS CONTAMINATION OF THE SHALE OR OIL, HOWEVER, WHEN THE SHALE WAS EXPOSED TO TRITIATED METHANE AND ETHANE. CONTAMINATION OF SHALE AND OIL WITH TRITIUM, AS THE RESULT OF EXPOSURE TO TRITIATED WATER, INCREASED AS THE EXPOSURE TEMPERATURE, EXPOSURE PRESSURE, AND THE TRITIUM CONCENTRATION IN THE WATER WERE INCREASED. THIS CONTAMINATION ALSO INCREASED AS THE EXPOSURE TIME WAS INCREASED UP TO 25 DAYS, BUT NOT SIGNIFICANTLY THEREAFTER. MORE THAN 90% OF THE TRITIUM WAS REMOVED FROM CONTAMINATED SHALE BY TREATING THE SHALE WITH MOIST AIR AT ELEVATED TEMPERATURES. ONLY SMALL AMOUNTS OF THE TRITIUM WERE REMOVED FROM CRUDE OIL BY CONTACTING IT WITH SOLID DRYING AGENTS OR WITH WATER.

WHEN TRITIUM-CONTAMINATED SHALE OIL WAS DISTILLED, THE TRITIUM CONTENTS OF THE RECOVERED FRACTIONS WERE FOUND TO BE APPROXIMATELY EQUAL.

H-3, RADIONUCLIDES, CONTAMINATION, OIL SHALE, OIL, RECOVERY, WATER VAPOR, TRITIATED HYDROGEN, TRITIATED METHANE, TRITIATED ETHANE, RETORTED OIL

07137

JOHN J. KORANDA, JOHN R. MARTIN, ROBERT WIKKERINK, AND MARSHALL STUART

UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA.

IN- SYMPOSIUM ON ENGINEERING WITH NUCLEAR EXPLOSIVES; PROCEEDINGS. HELD IN LAS VEGAS, NEVADA, 14-16 JANUARY 1970. BY THE AMERICAN NUCLEAR SOCIETY. WASHINGTON, D.C., U.S. ATOMIC ENERGY COMMISSION, CONF-700101. PP. 400-421, 1970, 17 FIGS., 6 TABS., 8 REFS.

AVAILABILITY- NTIS.

CONTINUING STUDIES OF TRITIUM MOVEMENT IN EJECTA AT SEDAN CRATER DEMONSTRATE THAT VARIATIONS IN TRITIUM CONCENTRATION ARE CORRELATED WITH SEASONAL RAINFALL AND SOIL WATER MOVEMENTS. LOSSES OF 21 MCI H-3/PT(2) ARE EVIDENT ON SEDAN CRATER LIP AT THE END OF A THREE YEAR PERIOD OF MEASUREMENTS IN WHICH AN USUALLY LARGE FLUX OF RAIN WAS RECEIVED. THE DISTRIBUTION OF GAMMA EMITTING RADIONUCLIDES AND TRITIUM IS DESCRIBED IN THE RECENTLY CREATED SCHOONER CRATER EJECTA FIELD. THE SPECIFIC ACTIVITY OF RADIONUCLIDES IN THE SCHOONER EJECTA CONTINUUM IS SHOWN FOR EJECTA COLLECTED FROM THE CRATER LIP TO 17 MILES FROM OZ. THE MOVEMENT OF W-181 AND TRITIUM INTO THE SUB-EJECTA PRESHOT SOIL IS DESCRIBED AT A SITE 3000 FEET FROM OZ. (AUTHS.)

H-3, W-181, RADIONUCLIDES, DISTRIBUTION, MOVEMENT, SEDAN, PROJECT SCHOONER, NUCLEAR CRATERS, NUCLEAR TESTING, EJECTA, CONCENTRATION, RAINFALL, PRECIPITATION (METEOROLOGICAL), SOIL MOISTURE, SPECIFIC ACTIVITIES, FALLOUT, CO-57, RU-103, MN-54, NB-95, CO-58, Y-88

07138

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GASBUGGY IN PERSPECTIVE.

IN- SYMPOSIUM ON ENGINEERING WITH NUCLEAR EXPLOSIVES; PROCEEDINGS. HELD IN LAS VEGAS, NEVADA, 14-16 JANUARY 1970. BY THE AMERICAN NUCLEAR SOCIETY. WASHINGTON, D.C., U.S. ATOMIC ENERGY COMMISSION, CONF-700101. PP. 662-697, 1970, 14 FIGS., 7 TABS., 25 REFS. (ALSO UCRL-72175)

AVAILABILITY- NTIS.

THE GASBUGGY EXPERIMENT SET OUT TO ANSWER A NUMBER OF QUESTIONS- TO WHAT DEGREE COULD A LOW-PERMEABILITY, GAS-BEARING FORMATION BE STIMULATED. WHAT WERE THE MECHANISMS RESPONSIBLE FOR STIMULATION OF GAS.

WHAT WERE THE PROBLEMS OF PROJECT CONTAMINATION AND POTENTIAL GROUND SHOCK DAMAGE. AFTER TWO YEARS OF POSTSHOT WORK, SOME OF THESE QUESTIONS ARE BEING ANSWERED; MORE PRECISELY, PRESSURES, TEMPERATURES AND CONCENTRATIONS OF RADIOACTIVE AND NON-RADIOACTIVE CONSTITUENTS OF THE GAS ARE BEING ESTABLISHED. HOWEVER, ANALYZING THESE QUANTITIES AND THEIR DEPENDENCE ON VARIABLES SUCH AS FLOW RATES IN TERMS OF A SELF-CONSISTENT MODEL OF ALL THE DETONATION PHENOMENA HAS BEEN A DIFFICULT AND SLOW PROCESS. THE VALIDITY OF SUCH A MODEL MUST BE TESTED BY DATA FROM OTHER DETONATIONS. PROJECT GASBUGGY, FLOWSHARE PROGRAM, H-3, KR-85, RADIONUCLIDES, CONCENTRATION, NUCLEAR CHIMNEYS, NATURAL GAS, HYDROLOGY, UNDERGROUND NUCLEAR EXPLOSIONS, NUCLEAR EXPLOSIONS

07139

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UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, LIVERMORE, CALIF.

INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT.

IN- SYMPOSIUM ON ENGINEERING WITH NUCLEAR EXPLOSIVES; PROCEEDINGS. HELD IN LAS VEGAS, NEVADA, 14-16 JANUARY 1970. BY THE AMERICAN NUCLEAR SOCIETY. WASHINGTON, D.C., U.S. ATOMIC ENERGY COMMISSION, CONF-700101. PP. 794-814, 1970, 10 FIGS., 5 TABS., 12 REFS.

AVAILABILITY- NTIS.

NUCLEAR EXPLOSIONS IN CARBONATE-BEARING ROCKS RELEASE LARGE AMOUNTS OF CO-2. IN SOME CASES, FOR EXAMPLE, WHEN THE EXPLOSION IS CONTAINED AND DOLOMITE IS THE PRINCIPAL CARBONATE MINERAL, SUFFICIENT CO-2 MAY BE GENERATED TO DRIVE THE FORMATION GAS AWAY FROM THE CHIMNEY. ROCKS WHICH CONTAIN FREE CARBON, SUCH AS THE SHALES OF THE RECENT GASBUGGY AND PROPOSED BRONCHO AND DRAGON TRAIL EXPERIMENTS, WILL -1 BRATE CO AND H-2 IN AMOUNTS PREDICTED FROM THE YIELD OF THE EXPLOSIVE AND THE C, CO-2 AND WATER CONCENTRATION IN THE ROCK. IN GENERAL, THE GREATER THE AMOUNT OF FREE CARBON IN A ROCK, THE MORE H-2 WILL BE PRODUCED AND THE HIGHER WILL BE THE FRACTION OF TRITIUM IN THE GAS PHASE. (AUTHS.)

PROJECT GASBUGGY, FLOWSHARE PROGRAM, H-3, RADIONUCLIDES, CHEMICAL ANALYSIS, CARBON, CARBON DIOXIDE, CARBON MONOXIDE, GASES, HYDROGEN, NUCLEAR CHIMNEYS, CONCENTRATION, DRAGON TRAIL, PROJECT BRONCHO, DISTRIBUTION, UNDERGROUND NUCLEAR EXPLOSIONS, NUCLEAR EXPLOSIONS, NATURAL GAS

07140

D. G. JACOBS, E. G. STRUXNESS, AND C. R. BOWMAN

D. G. JACOBS, E. G. STRUXNESS, OAK RIDGE NATIONAL LABORATORY, HEALTH PHYSICS DIVISION, OAK RIDGE, TENN.; C. R. BOWMAN, EL PASO NATURAL GAS CO., EL PASO, TEX.

A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL.

IN- SYMPOSIUM ON ENGINEERING WITH NUCLEAR EXPLOSIVES; PROCEEDINGS. HELD IN LAS VEGAS, NEVADA, 14-16 JANUARY 1970. BY THE AMERICAN NUCLEAR SOCIETY. WASHINGTON, D.C., U.S. ATOMIC ENERGY COMMISSION, CONF-700101. PP. 831-849, 1970, 2 FIGS., 4 TABS., 19 REFS.

RADIOACTIVITY IN NATURAL GAS FROM THE GASBUGGY CAVITY HAS BEEN ANALYZED PRIOR TO AND DURING FLARING OPERATIONS. NONE OF THIS GAS HAS ENTERED THE COLLECTION AND DISTRIBUTION SYSTEM, BUT A THEORETICAL ANALYSIS HAS BEEN MADE OF THE HYPOTHETICAL IMPACT ON MEMBERS OF THE PUBLIC THAT WOULD HAVE OCCURRED IF THE GAS HAD BEEN INTRODUCED INTO THE COMMERCIAL STREAM. DOSE EQUIVALENTS HAVE BEEN ESTIMATED FOR BOTH WORKERS AND CONSUMERS. IN THIS ANALYSIS, GASBUGGY GAS HAS BEEN TRACED THROUGH A REAL GAS-COLLECTION SYSTEM AND PROCESSING PLANT, AS REPRESENTED BY THE PRESENT SITUATION EXISTING IN THE SAN JUAN PRODUCTION DIVISION, EL PASO NATURAL GAS CO. IN ADDITION, A NUMBER OF CONSIDERATIONS ARE PRESENTED WHICH WOULD APPLY TO RADIATION EXPOSURE IN METROPOLITAN AREAS. RESULTS OF THIS ANALYSIS FOR THE GASBUGGY WELL INDICATE HYPOTHETICAL DOSE EQUIVALENTS TO VARIOUS POPULATION GROUPS TO BE WELL WITHIN THE ANNUAL DOSE LIMITS SUGGESTED BY THE INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION. PROJECTION TO A STEADY-STATE SITUATION INVOLVING EXTENSIVE NATURAL GAS PRODUCTION FROM MANY PRODUCING WELLS ALSO RESULTED IN HYPOTHETICAL DOSE EQUIVALENTS WITHIN THE ANNUAL DOSE LIMITS.

PROJECT GASBUGGY, PLOWSHARE PROGRAM, NATURAL GAS, RADIOACTIVITY, DOSE EQUIVALENTS, RADIATION EXPOSURE, H-3, KR-85, RADIONUCLIDES, CONCENTRATION, RADIOLOGICAL HAZARDS

07141

G. N. GUPTA
ROCKEFELLER UNIVERSITY, NEW YORK, N. Y.
A NEW PROCEDURE OF LIQUID-SCINTILLATION COUNTING IN PLASTIC BAGS FOR H-3, C-14 AND P-32 IN BIOLOGICAL MATERIALS

IN- ISOTOPES AND RADIATION IN SOIL ORGANIC-MATTER STUDIES. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 15-19 JULY 1968. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY. PP 31-38, 1968, 3 FIGS, 2 TABS, REFS (PROCEEDINGS SERIES, STI/PUB/190, U.S. AEC REPORT CONF-680725).

A NEW TECHNIQUE FOR COMBUSTION OF BIOLOGICAL MATERIALS IN PLASTIC BAGS AND RADIOASSAY OF THE COMBUSTION PRODUCTS IN PLASTIC BAGS HAS SEVERAL ADVANTAGES OVER THE CONVENTIONAL TECHNIQUES. A WIDE VARIETY OF BIOLOGICAL SUBSTANCES (UP TO 300 MG OF DRY WEIGHT) CAN BE COMBUSTED IN O-2-FILLED BAGS TO YIELD COMMON COMBUSTION PRODUCTS WHICH, WHEN DISSOLVED IN SUITABLE SOLVENTS, YIELD COLOURLESS SOLUTIONS WITH HIGH AND CONSTANT COUNTING EFFICIENCY, ELIMINATING ALL QUENCHING PROBLEMS AND THEIR CORRECTIONS. THIS TECHNIQUE YIELDS A HIGHER COUNTING EFFICIENCY AND LOWER BACKGROUND THAN THE USUAL PROCEDURE OF COUNTING IN GLASS VIALS. FOR EXAMPLE- H-3, C-14 AND P-32 HAVE EFFICIENCIES 27%, 80% AND 90-95%, RESPECTIVELY, WITH BACKGROUND 5-8 CPM. THE PROCEDURE IS SIMPLE, INEXPENSIVE AND RAPID FOR RADIOASSAY OF SINGLY OR DOUBLY LABELLED BIOLOGICAL SAMPLES.

LIQUID SCINTILLATION COUNTING, H-3, C-14, P-32, RADIONUCLIDES, RADIOASSAY, BIOLOGICAL MATERIALS

07142

M. I. SAX, J. C. DALY, AND J. J. GABAY
NEW YORK STATE DEPT. OF HEALTH, DIVISION OF LABORATORIES AND RESEARCH, ALBANY, N. Y.
A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE
NUCLEAR APPLICATIONS AND TECHNOLOGY, VOL. 7, PP 108-112, 1969, 1 FIG, 9 TABS, 13 REFS
U.S. PUBLIC HEALTH SERVICE RESEARCH GRANT RH-412

AN INTENSIVE STUDY OF THE AREA SURROUNDING THE NUCLEAR FUEL SERVICES, INC. FUEL REPROCESSING PLANT AT WEST VALLEY, NEW YORK, WAS UNDERTAKEN DURING THE SUMMER OF 1967 TO DETERMINE EXPERIMENTALLY THE MAXIMUM CONCENTRATION (C-MAX) OF THE STACK EFFLUENT USING THE INTRINSIC MOISTURE CONTENT OF THE STACK EFFLUENT AS THE TRACER. MORE THAN 700 SAMPLES WERE COLLECTED DURING A TWO-MONTH PERIOD, TO A DISTANCE OF 4 MILES, ALONG 7 SAMPLING LEGS RADIATING FROM THE SOURCE, USING SILICA-GEL SAMPLERS. IT WAS DEFINITELY DEMONSTRATED THAT A C-MAX CAN BE DETERMINED BY TRACING WITH TRITIATED MOISTURE. BASED ON EXPERIMENTAL C-MAX VALUES, AN ESTIMATE OF THE EMISSION RATE, Q, WAS MADE UNDER VARIOUS METEOROLOGICAL CONDITIONS.

H-3, RADIONUCLIDES, TRITIATED WATER VAPOR, RADIOACTIVE WASTES, TRACERS, NUCLEAR FUEL PLANTS, AIR MONITORING, STACK DISPERSION, GASES, SCINTILLATION COUNTING

07143

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ISOTOPES, INC., PALO ALTO LABORATORIES, PALO ALTO, CALIF.
PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER
IN- TECHNICAL DISCUSSIONS OF OFFSITE SAFETY PROGRAMS FOR UNDERGROUND NUCLEAR DETONATIONS. MERCURY, NEV., REYNOLDS ELECTRICAL AND ENGINEERING CO., INC., U.S. AEC REPORT NVO-40 (REV. NO. 2), PP 69-82, 1969, 10 FIGS, 5 REFS.

FACTORS INFLUENCING THE MIGRATION OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS IN GROUND WATER ARE DISCUSSED, AND EXEMPLIFIED BY CALCULATIONS OF A HYPOTHETICAL 1-MT EXPLOSION AT THE NEVADA TEST SITE. SHRINKAGE OF THE VOLUME OF CONTAMINATED WATER AND REDUCTION OF ITS CONCENTRATION ARE CAUSED BY RADIOACTIVE DECAY, SORPTION, AND DISPERSION. HIGH DISTRIBUTION COEFFICIENTS (SOLID/LIQUID) FOR SUCH RADIONUCLIDES AS STRONTIUM-90 EFFECTIVELY PREVENTS THEIR MIGRATION. TRITIUM, WITH AN ESSENTIALLY ZERO DISTRIBUTION COEFFICIENT, WILL MIGRATE FROM THE EXPLOSION ZONE, 14.5 KM IN 145 YRS IN THE HYPOTHETICAL EXAMPLE.

H-3, RADIONUCLIDES, MIGRATION, GROUND WATER, WATER, UNDERGROUND NUCLEAR EXPLOSIONS, NUCLEAR EXPLOSIONS, EXPLOSIONS, NEVADA TEST SITE, SR-90, RADIOACTIVE DECAY, SORPTION, DISPERSION, HYDROLOGY, CONTAMINATION, CONCENTRATION

07144

C. L. POLKERS AND K. A. JOHNSON
LAWRENCE RADIATION LABORATORY, UNIVERSITY OF CALIFORNIA, LIVERMORE, CALIF.
REPAIRING A LARGE TRITIUM-CONTAMINATED SYSTEM
LIVERMORE, CALIF., UNIVERSITY OF CALIFORNIA, LAWRENCE RADIATION LABORATORY, UCRL-50850, 7 P., 1970, 2 FIGS, 2 REFS.

A PROCESS WAS DEVELOPED TO PERMIT MAJOR REPAIRS ON A LARGE DRY BOX AND GAS PURIFICATION SYSTEM WHICH WERE HIGHLY CONTAMINATED WITH TRITIUM. THE PROCESS WAS BASED UPON A PORTABLE FLUSH HOOD ATTACHED OVER THE WORK AREA AND A HIGH-VELOCITY AIR FLOW TO MINIMIZE AIRBORNE CONTAMINATION. RADIATION EXPOSURES OF THE PERSONNEL INVOLVED WERE ALL WITHIN ACCEPTABLE LIMITS (AUTHS).

DRY BOX SYSTEM, GAS PURIFICATION SYSTEM, REPAIR, CONTAMINATION, H-3, RADIONUCLIDES, RADIATION EXPOSURE, MAN

07145

S. BLIXT, L. EHRENBERG AND O. GELIN
STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS
AGRI. HORTIC. GENETICA, VOL. 20, PP 170-216, 1963, 23 FIGS, 15 TABS, 20 REFS.

A PRELIMINARY INVESTIGATION OF THE EFFECT OF T(SUB 2)0 ON THE VARIETY WEITOR. SEEDS WERE SOAKED IN A SOLUTION CONTAINING T(SUB 2)0 AND SOWN IN A SAND BED IN GREENHOUSE. THE TREATED PLANTS WERE HEAVILY SPOTTED IN THE SAME WAY AS OTHERWISE IRRADIATED PLANTS. THE AVERAGE LENGTH OF THE CONTROL PLANTS WAS APPROX. 202 MM, AND THAT OF THE TREATED PLANTS APPROX. 80 MM. THE DIFFERENCE IS SIGNIFICANT AT THE 1% LEVEL. (ONE EXPERIMENT OF 12 IN THIS PAPER).

MUTATIONS, RADIATION EFFECTS, GENETIC EFFECTS, PEAS, TRITIATED WATER, VEGETABLES

07146

J. H. PENN, W. R. BUSH, AND L. C. WATSON
ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, CHALK RIVER, ONTARIO
ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES
CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, AECL-2656, 42 P., 1967, 1 FIG, 1 TAB.

THE FUNDAMENTALS OF RADIATION HAZARDS AND THEIR CONTROL ARE OUTLINED. THE PURPOSE IS TO PRESENT THE FUNDAMENTALS OF RADIATION HAZARDS CONTROL, TO DESCRIBE METHODS THAT ENABLE EMPLOYEES TO WORK SAFELY WITH RADIATION, AND TO ACQUAINT EMPLOYEES WITH THE CNRL RADIATION AND INDUSTRIAL SAFETY ORGANIZATION.

MONITORING, RADIATION DOSE, DECONTAMINATION, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, SR-90, I-131, PU-239, H-3, RADIONUCLIDES

07147

T. H. ESSIG, ED.
EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966.
RICHLAND, WASH., BATTELLE MEMORIAL INSTITUTE, PACIFIC NORTHWEST LABORATORY, BNWL-439 (APP.). 114 P., 1967, 36 TABS.

U.S. AEC CONTRACT NO. AT(45-1)-1830.

DATA ARE GIVEN FOR THE CONCENTRATION OF H-3 IN COLUMBIA RIVER WATER AT THE FOLLOWING LOCATIONS-
VERMITA BRIDGE, PRIEST RAPIDS DAM, AND RICHLAND.

H-3, RADIONUCLIDES, CONCENTRATION, COLUMBIA RIVER, RIVERS, WATER, HANFORD PROJECT, ENVIRONMENTAL MONITORING, P-32, CR-51, ZN-65, I-131, SR-90

07148

PUERTO RICO NUCLEAR CENTER

RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PRO-CEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969.

OAK RIDGE, TENN., U.S. ATOMIC ENERGY COMMISSION, DIVISION OF TECHNICAL INFORMATION EXTENSION, PRNC-135 (CONF-690508). 526 P., 1969, FIGS., TABS., REFS.

AVAILABILITY- NTIS.

U.S. AEC CONTRACT NO. AT(40-1)-1833.

ABSTRACTS OF TWO H-3 STUDIES ARE PRESENTED. THE FIRST STUDY INVOLVED AN EXPERIMENTAL TEST OF A MATHEMATICAL MODEL TO PREDICT THE MOVEMENT OF H-3 THROUGH A TROPICAL ECOSYSTEM BASED ON MEASUREMENTS OF WATER CONTENT OF ECOSYSTEM COMPARTMENTS, AND FLUX OF WATER BETWEEN COMPARTMENTS. THE SECOND STUDY DETERMINED THE RESPONSE OF SEVERAL TROPICAL RAIN FOREST TREES TO THE INJECTION OF A PULSE OF TRITIATED WATER.

H-3, RADIONUCLIDES, MOVEMENT, MATHEMATICAL MODELS, MODELS, RAINFORESTS, FORESTS, CONCENTRATION, SPECIFIC ACTIVITIES, RESIDENCE TIME, TRITIATED WATER, SOILS, LITTER, LEAVES, TREES, TROPICS

07149

H. F. ANDERSON AND W. E. SHEEHAN

MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MIAMISBURG, OHIO

ENVIRONMENTAL MONITORING REPORT- JANUARY-JUNE 1969.

MIAMISBURG, OHIO, MONSANTO RESEARCH CORPORATION, MOUND LABORATORY, MLM-1615, 41 P., 1969, 3 FIGS., 11 TABS.

U.S. AEC CONTRACT NO. AT-33-1-GEN-53.

THE AVERAGE CONCENTRATION OF RADIONUCLIDES FROM MOUND LABORATORY IN THE GREAT MIAMI RIVER AND IN THE ENVIRONMENTAL AIR WAS WITHIN THE STRINGENT STANDARDS OF SAFETY SPECIFIED BY THE ATOMIC ENERGY COMMISSION. DATA ARE PRESENTED FOR H-3, PU-238 AND PO-210. (SUMMARIZED IN- RADIOL. HEALTH DATA REPT., VOL. 10(12), PP. 581-582, 1969.)

H-3, PU-238, PO-210, RADIONUCLIDES, ENVIRONMENTAL MONITORING, MOUND LABORATORY, GREAT MIAMI RIVER, RIVERS, CONCENTRATION, MONITORING

07150

MELVIN L. MERRITT

U.S. ATOMIC ENERGY COMMISSION, NEVADA OPERATIONS OFFICE, LAS VEGAS, NEV.

PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT.

LAS VEGAS, NEV., U.S. ATOMIC ENERGY COMMISSION, NEVADA OPERATIONS OFFICE, NVO-79, 119 P., 1970, 37 FIGS., 4 TABS., 49 REFS.

THERE HAS BEEN NO DETECTABLE RELEASE OF RADIOACTIVITY FROM MILROW. THE ACTIVITY FORMED REMAINS NEAR THE EXPLOSION POINT AT 4,000 FT DEPTH, MOST OF IT TIED UP CHEMICALLY AND PHYSICALLY IN ROCK GLASS. THERE IS A CHIMNEY OF RUBBLE EXTENDING FROM THE EXPLOSION DEPTH TO THE SURFACE, FORMING A SUBSIDENCE AT THE SURFACE. THE CHIMNEY IS NOW IN THE PROCESS OF FILLING WITH WATER FROM UNDERGROUND SOURCES AND DIVERTED FROM SURFACE FLOW. WHEN IT IS FULL, GROUND WATER WILL TEND TO RESUME ITS PRESHOT FLOW PATTERNS, CARRYING TRITIUM TOWARDS THE OCEAN. THE PROBABLE CONSEQUENCE IS THAT THE FLOW WILL BE SO SLOW THAT TRITIUM CONCENTRATIONS WILL BE REDUCED BELOW THE RADIATION CONCENTRATION GUIDE FOR DRINKING WATER FOR THE GENERAL PUBLIC BEFORE THE TRITIATED WATER REACHES THE OCEAN. A MORE CONSERVATIVE ESTIMATE IMPLIES DISCHARGE ABOVE AN RCG STARTING AS EARLY AS 1976. DILUTION IN SEA WATER IS SO EFFICIENT THAT IT WILL QUICKLY FALL BELOW AN RCG, AND THERE IS SOME QUESTION WHETHER THE TRITIUM COULD EVEN BE FOUND.

H-3, RADIONUCLIDES, MILROW, ALUTIAN ISLANDS, RADIOACTIVITY, GROUND WATER, WATER, CONCENTRATION, SEEPAGE, NUCLEAR CHIMNEYS, DILUTION, SEA WATER, ALASKA, AMCHITKA ISLAND, TSUNAMIS, UNDERGROUND NUCLEAR EXPLOSIONS, BIOLOGICAL EFFECTS, GROUND SHOCK, WATER SHOCK, SEISMICITY, ANIMALS, EARTHQUAKES, NUCLEAR EXPLOSIONS, RADIOACTIVITY

07151

JACQUES PLANET, GUY UZZAN, AND JACQUES LE GRAND

CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.)

PONTENAY-AUX-ROSES, FRANCE, COMMISSARIAT A L'ENERGIE ATOMIQUE, CEA- CONF-700505-11, 23 P., 1970, 3 FIGS., 5 REFS.

A GENERAL METHOD OF EVALUATING THE IRRADIATION OF MAN IS FIRST DESCRIBED AND THEN APPLIED TO THE CASE OF A GIVEN SITE. THE DISPERSION OF TRITIATED WATER IN THE PHYSICAL ENVIRONMENT (DISPERSION IN AIR AND RAINWATER AND GROUND CONTAMINATION), THE CONTAMINATION OF PLANT AND ANIMAL FOODSTUFFS, AND FINALLY THE IRRADIATION OF MAN ARE EXAMINED. THE DOSE CORRESPONDING TO A YEARLY EXPOSURE IN A CONTAMINATED ATMOSPHERE AND THE VARIATION IN THIS DOSE AS A FUNCTION OF THE AGE OF INDIVIDUALS ARE ESTIMATED. THE DOSE ABSORBED BY INGESTION OF TRITIATED WATER VAPOR IS ALSO STUDIED. THIS METHOD IS APPLIED TO A PLANT, 3 KM DISTANT FROM A VILLAGE, DISCHARGING TRITIATED STEAM CONTINUOUSLY THROUGH A CHIMNEY. (NSA 24, NO. 48462, AUTH. TRANSL.)

TRITIATED WATER, TRITIATED WATER VAPOR, DISPERSION, CONTAMINATION, ATMOSPHERE (TERRESTRIAL), RAINWATER, SOILS, PLANTS, IRRADIATION, MAN, RADIATION DOSE, RADIATION EXPOSURE, INGESTION, AGE, H-3, RADIONUCLIDES, FOODS

07152

RICHARD C. GREULICH

UNIVERSITY OF CALIFORNIA, DEPT. OF ANATOMY, LOS ANGELES, CALIF.

DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE.

RADIATION RESEARCH, VOL. 14, PP. 83-95, 1961, 2 FIGS., 3 TABS., 18 REFS.

NATIONAL INSTITUTES OF HEALTH RESEARCH GRANT D-635.

TRITIATED THYMIDINE WAS ADMINISTERED CHRONICALLY IN DRINKING WATER AT A CONCENTRATION OF 2 MICROCI/ML TO NORMAL ADULT MICE BEFORE AND DURING THE COURSE OF GESTATION. ORAL DOSES TO FEMALES RANGED FROM 245 TO 390 MICROCI FOR 24 TO 32 DAYS AND 8 TO 167 MICROCI OVER 1-18 DAYS TO ASSOCIATED BREEDING MALES. ABSOLUTE BODY BURDENS WERE NOT COMPUTED. FIRST LITTERS WERE APPARENTLY NORMAL WHILE IN SUBSEQUENT LITTERS FROM TREATED ANIMALS AS WELL AS TREATED MALES AND STOCK FEMALES, THERE WAS A RAPID DECLINE IN REPRODUCTIVE CAPACITY CHARACTERIZED BY INCREASED STILLBIRTH, PETAL RESORPTION, AND MALE STERILITY. HISTOLOGICAL INVESTIGATION INDICATED TESTICULAR DAMAGE IN TREATED MALES AND ALTERATION OF UTERINE FUNCTION RESPONSIBLE FOR PROLONGATION IN TWO TREATED FEMALES. THE REPRODUCTIVE CAPACITY OF INTERBRED INITIAL OFFSPRING WAS ALSO REDUCED, AS EVIDENCED BY AN INCIDENCE OF STILLBIRTH AND NEONATAL DEATH APPROXIMATING 70%.

H-3, RADIONUCLIDES, TRITIATED THYMIDINE, TRITIATED COMPOUNDS, MICE, RODENTS, MAMMALS, REPRODUCTION, LITTER SIZE, STERILITY, BIOLOGICAL EFFECTS, ORGANS, RADIATION EFFECTS, RADIATION DOSE

07153

PENNSYLVANIA STATE UNIVERSITY, DEPT. OF BIOPHYSICS, UNIVERSITY PARK, PA.
CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13.
SCIENCE, VOL. 166, PP. 1629-1631, 1969, 3 FIGS., 1 TAB., 10 REFS.
NATIONAL SCIENCE FOUNDATION GRANT GB-4485 AND NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GRANT NGR 39-009-008.

DECAY OF CYTOSINE-3-H-3 INCORPORATED INTO BACTERIOPHAGE S13 DNA CAUSES A MOLECULAR REARRANGEMENT OF THE CYTOSINE MOLECULE UNDERGOING THE DECAY. THE MOLECULAR REARRANGEMENT PRODUCES A CYTOSINE TO THYMINE CODING CHANGE WITH AN EFFICIENCY APPROACHING ONE. DECAY OF EITHER THYMIDINE-(METHYL)-H-3 OR CYTOSINE-6-H-3 IS LESS THAN 1% AS EFFECTIVE IN CAUSING EITHER CYTOSINE TO THYMINE OR THYMINE TO CYTOSINE TRANSITIONS. (AUTH.)
H-3, RADIONUCLIDES, TRITIATED CYTOSINE, BACTERIOPHAGES, ESCHERICHIA, BACTERIA, MICROORGANISMS, RADIOACTIVE DECAY, DNA, RADIATION EFFECTS, MUTATIONS, TRITIATED COMPOUNDS

07154

J. A. SIMPSON
UNIVERSITY OF CHICAGO, DEPT. OF PHYSICS, AND ENRICO FERMI INSTITUTE FOR NUCLEAR STUDIES, CHICAGO, ILL.

THE PRODUCTION OF TRITONS AND C-14 IN THE TERRESTRIAL ATMOSPHERE BY SOLAR PROTONS.
JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 65(5), PP. 1615-1616, 1960, 10 REFS.

THE NATURAL PRODUCTION RATE OF TRITONS IS GREATER THAN MIGHT BE EXPECTED FROM PRODUCTION BY THE COSMIC-RAY FLUX IN THE ATMOSPHERE. TWO MECHANISMS HAVE BEEN CONSIDERED TO EXPLAIN THIS DISCREPANCY- A) ACCRETION OF SOLAR-PRODUCED TRITONS BY THE EARTH, AND B) ADDITIONAL PRODUCTION BY THE LOW-ENERGY COMPONENT OF THE COSMIC RADIATION AT TIMES OF MINIMUM SOLAR ACTIVITY. THIS NOTE POINTS OUT A THIRD SOURCE, NAMELY, INTENSE FLUXES OF ENERGETIC SOLAR PROTONS WHICH COULD PRODUCE MAXIMUM OF THE SOLAR-ACTIVITY CYCLE. TRITON, C-14, RADIONUCLIDES, ATMOSPHERE (TERRESTRIAL), SOLAR PROTONS, PRODUCTION RATE, SOLAR FLARES, H-3

07155

DANIEL FRANCIS CAHILL

UNIVERSITY OF ROCHESTER, DEPT. OF RADIATION BIOLOGY AND BIOPHYSICS, ROCHESTER, N.Y.
SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER.
ROCHESTER, N.Y., UNIVERSITY OF ROCHESTER, DEPT. OF RADIATION BIOLOGY AND BIOPHYSICS, PH.D. THESIS, 133 P., 1970, 14 FIGS., 22 TABS., 72 REFS. (U.S. AEC REPORT UR-49-1254)

SPRAGUE-DAWLEY RATS WERE MAINTAINED AT BODY WATER LEVELS OF 0, 1, 10, 20, 50, 75, AND 100 MICROCI/ML HTO THROUGH PREGNANCY BY INITIAL INTRAPERITONEAL INJECTION AND LATER IN DRINKING WATER. DOSES RANGED FROM 0.3 TO 30 RADS/DAY TO EMBRYO AND FETUS WHICH WERE REMOVED AFTER 21 DAYS BY CAESAREAN. LITTER SIZE WAS REDUCED AT 100 MICROCI/ML AND STUNTING OCCURRED AT 20+, NO EFFECT AT 10, AND INCREASED LENGTH AT 1 MICROCI/ML. A NUMBER OF FETUS ORGANS DECREASED IN ABSOLUTE WEIGHTS PROPORTIONATE TO DOSE, AND RELATIVE WEIGHTS OF BRAINS AND GONADS DECREASED AT 10+; HEART, KIDNEY, AND THYMUS AT 50+; NO REDUCTION IN LIVER AND LUNGS AT 100; NO REDUCTIONS AT 1 MICROCI/ML ALTHOUGH HEART AND LIVER INCREASED. DRIED ORGANS SHOWED INCORPORATION TO BE PROPORTIONAL TO, AND 20 TO 30% OF MATERIAL BODY WATER HTO ACTIVITY. ALL ORGANS APPEARED NORMAL EXCEPT GONADS BUT MICROENCEPHALY CAN BE INDUCED BY 10 MICROCI/ML. RECOVERY WAS MORE RAPID IN FEMALES THAN MALES. BOTH SEXES WERE STERILE WHEN EXPOSED TO 50+ MICROCI/ML IN UTERO. COMPARATIVELY, THE HTO RBE WAS 1.7 AND 1 MICROCI/ML HTO IS 200 TIMES GREATER THAN ICRP RECOMMENDATION.
H-3, TRITIATED WATER, RADIONUCLIDES, IRRADIATION, RATS, RODENTS, MAMMALS, FETUS, ORGANS, RADIATION EFFECTS, RECOVERY, STERILITY, LITTER SIZE, RELATIVE BIOLOGICAL EFFECTS, REPRODUCTION, RADIATION DOSE, BRAIN, GONADS, HEART, KIDNEY, THYMUS, LIVER, LUNGS

07156

H. M. PARKER

HANFORD WORKS, RICHLAND, WASH.
RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951.
QUARTERLY PROGRESS REPORT.
RICHLAND, WASH., HANFORD WORKS, HW-23332. 28 P., 1952, 5 TABS.
U.S. AEC CONTRACT NO. W-31-109-ENG-52.

DATA ARE INCLUDED FROM THE RADIOBIOLOGICAL ECOLOGICAL SURVEY OF THE COLUMBIA RIVER, A STUDY OF THE EFFECTS OF PILE EFFLUENT WATER ON AQUATIC ORGANISMS, A STUDY OF THE ABSORPTION OF PU FROM THE GASTROINTESTINAL TRACT, PU TOXICOLOGY STUDIES, THE EFFECT OF GROWTH ON THE DEPOSITION OF TISSUE-BOUND T, PULMONARY ABSORPTION OF T, EFFECTS OF RADIATION ON PLANT LIFE AND TRANSLOCATION OF RADIOISOTOPES IN PLANTS, THE RETENTION OF BOUND T OXIDE BY THE BEAN PLANT AND T FIXATION BY BACTERIA.
H-3, PU-238, RADIONUCLIDES, COLUMBIA RIVER, RIVERS, RADIATION EFFECTS, RADIOACTIVE WASTES, MICROORGANISMS, BACTERIA, WASTES, FISH, PLANTS, ABSORPTION, GASTROINTESTINAL TRACT, RADIOTOXICITY, TRANSLOCATION, RATS, RODENTS, RETENTION, TRITIUM OXIDE, FIXATION

07157

THEODOR M. FLIEDNER, RAINER J. HAAS, HILDEGARD STEHLE, AND ANGELA ADAMS
GESELLSCHAFT FUER STRAHLENFORSCHUNG MBH, INSTITUT FUER HAEMATOLOGIE, FREIBURG, GERMANY
COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE.
LABORATORY INVESTIGATION, VOL. 18, PP. 249-259, 1968, 5 FIGS., 1 TAB., 35 REFS.

PREGNANT RATS RECEIVED H-3-THYMIDINE AT A DOSE LEVEL OF 0.4 MICROI/GM OF BODY WEIGHT EVERY 6 HRS FROM DAY 9 OF PREGNANCY UNTIL DELIVERY OF THE NEWBORN ANIMALS (IN ONE CASE FROM DAY 1 ON). AUTORADIOGRAPHIC EVALUATION OF THE TISSUES AND ORGANS OF THE NEWBORN ANIMALS INDICATED THAT ALL CELLS WERE HEAVILY LABELED. THE SYSTEMS THAT ARE KNOWN TO HAVE A SLOW TURNOVER IN THE ADULT RETAINED THEIR LABEL FOR MANY WEEKS AFTER BIRTH, WHILE THE RAPIDLY PROLIFERATING SYSTEMS LOST THEIR LABEL WITHIN A FEW DAYS. SOME BIOLOGIC PARAMETERS (GROWTH CURVES, WEIGHT CURVES, ERYTHROCYTE AND LEUKOCYTE CHANGES, CHROMOSOMAL ANALYSIS, AND BONE MARROW DIFFERENTIAL COUNTS) WERE EVALUATED FOR POSSIBLE RADIOTOXICITY OF THE METHOD AS FAR AS THE DEVELOPMENT OF THE LABELED NEWBORN RATS WAS CONCERNED. ALTHOUGH SOME EFFECT CANNOT BE EXCLUDED, IT IS VERY SMALL INDEED AND IS NOT FURTHER DEMONSTRABLE SOME WEEKS AFTER BIRTH. (AUTH.)
RATS, RODENTS, MAMMALS, TRITIATED THYMIDINE, LABELING, CELL NUCLEUS, AUTORADIOGRAPHY, CELLS, TISSUES, GROWTH RATE, TOXICITY, BONE MARROW, CHROMOSOMES, ERYTHROCYTES, LEUCOCYTES, ORGANS, RADIATION EFFECTS, TRITIATED COMPOUNDS

07158

U.S. PUBLIC HEALTH SERVICE. SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY.
PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE.
LAS VEGAS, NEV., U.S. PUBLIC HEALTH SERVICE, SOUTHWESTERN RADIOLOGICAL HEALTH LABORATORY, PNE-327.
138 P., 1971, 42 FIGS., TABS., 3 REFS.
AVAILABILITY- NTIS.

THE RADIOACTIVE EFFLUENT RELEASED FROM PROJECT BUGGY I TRAVELED NORTHWARD FROM THE NTS AND WAS DETECTED IN THE ENVIRONMENT AS FAR NORTH AS MONTANA. ONE HUNDRED AND FOUR WATER SAMPLES WERE COLLECTED FROM 28 STATIONS LOCATED IN NEVADA AND THREE STATIONS LOCATED IN SOUTHERN IDAHO. THE HIGHEST TRITIUM CONCENTRATION IN AN OFF-SITE SAMPLE WAS 2200 PCI/L AT THE RIVER RANCH NEAR DEETH, NEV. THE WATER SAMPLING LOCATIONS ARE SHOWN AND RESULTS ARE TABULATED.
PROJECT BUGGY I, FLOWSHARE PROGRAM, NUCLEAR EXPLOSIONS, EXPLOSIONS, CRATERING, CONCENTRATION, H-3, RADIONUCLIDES, WATER, SNOW, I-131, PRECIPITATION (METEOROLOGICAL), ENVIRONMENTAL MONITORING, NEVADA TEST SITE, MILK, VEGETATION

07159

ROBERT E. ALLEN

RADIATION SURVEILLANCE NETWORKS.
WASHINGTON, D.C., U.S. ATOMIC ENERGY COMMISSION, DIVISION OF OPERATIONAL SAFETY, NUCLEAR EXPLOSIVES ENVIRONMENTAL SAFETY BRANCH, WASH-1148, 145 P., 1969, FIGS., TABS.

ORGANIZATIONS WITHIN THE U.S., CANADA AND MEXICO ARE DESCRIBED. THESE PROGRAMS WERE SELECTED ON THE BASIS THAT THEY PROVIDE PUBLISHED DATA WHICH IS ROUTINELY AVAILABLE TO THE SCIENTIFIC COMMUNITY AND THE PUBLIC.
ENVIRONMENTAL MONITORING, MILK, MONITORING NETWORKS, DAIRY PRODUCTS, FOODS, RADIOACTIVITY, RADIONUCLIDES, H-3, PU-238

07160

D. A. MORRIS AND W. E. TEASDALE
HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1983.

IDAHO FALLS, IDAHO, U.S. GEOLOGICAL SURVEY, IDO-22046, 178 P., 1984, 87 FIGS., 13 TABS., 17 REFS.

THIS REPORT PRESENTS AN INTERPRETATION OF THE GEOLOGY OF THE NRTS AREA ON THE BASIS OF PRELIMINARY GRAVITY AND MAGNETIC SURVEYS. ALSO DISCUSSED IS A STUDY OF THE HYDROLOGY OF SUBSURFACE DISPOSAL OF WASTES CONTAINING TRITIUM AND OTHER RADIOACTIVE SUBSTANCES.
NATIONAL REACTOR TESTING STATION, HYDROLOGY, GEOLOGY, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, DISTRIBUTION, RADIOACTIVITY, H-3, RADIONUCLIDES, LIQUID RADIOACTIVE WASTES, RADIOACTIVE WASTES, GROUND WATER, WATER, VERTICAL DISTRIBUTION

07161

T. T. TRUJILLO, B. C. ANDERSON, AND W. H. LANGHAM

UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LOS ALAMOS, N. MEX.

BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS.

LOS ALAMOS, N. MEX., UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LABORATORY, LA-1986, 35 P., 1955, 7 FIGS., 3 TABS., 25 REFS.

MICE WERE MADE TO INHALE AN ATMOSPHERE CONTAINING 1% TRITIUM GAS (20 CI/L) AND THE RATE OF FIXATION OF TRITIUM AS HTO IN THE BODY FLUIDS WAS DETERMINED. THE ANIMALS FIXED AN LD 30/50 DOSE OF TRITIUM AS TRITIUM WATER (1.5 MICROL/CC OF BODY FLUIDS, EQUIVALENT TO APPROX. 800 REP TOTAL BODY EXPOSURE) IN ABOUT 45 MIN, DURING WHICH TIME THE CALCULATED TOTAL DOSE TO THE LUNG SURFACES WAS APPROX. 135,000 REP. NO HISTOLOGICAL EVIDENCE OF ACUTE LUNG CHANGES FROM THE VERY HIGH DOSES OF BETA RADIATION WAS OBSERVED. THE 30 DAY SURVIVAL CURVE OF THE MICE INHALING 1% TRITIUM GAS WAS COMPARED WITH THAT OF ANIMALS GIVEN TRITIUM WATER (HTO) BY INTRAPERITONEAL INJECTION. THE RESULTS SHOWED NO SIGNIFICANT DIFFERENCE IN THE LD 30/50 OF MICE EXPOSED BY INHALATION OF TRITIUM GAS AND MICE THAT RECEIVED EQUIVALENT AMOUNTS OF HTO BY INJECTION. IT APPEARED THAT THE FIXATION OF TRITIUM AS HTO IN THE BODY FLUIDS WAS THE LIMITING FACTOR WITH REGARD TO ACUTE INHALATION EXPOSURE TO TRITIUM GAS.

H-3, RADIONUCLIDES, BIOLOGICAL FIXATION, FIXATION, MORTALITY, MICE, TRITIATED WATER, RADIATION DOSE, INHALATION, BIOLOGICAL EFFECTS, RADIOLOGICAL HAZARDS, RODENTS, ANIMALS

07162

STEPHEN V. KAYE AND PAUL S. ROHMER

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.

DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC- PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES- PHASE III.

OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-4579, 144 P., 1970, 58 FIGS., 18 TABS., 50 REFS.

U.S. ABC CONTRACT NO. AT(26-1)-171.

POTENTIAL DOSES TO INDIGENOUS POPULATIONS ALONG ROUTE 17 IN EASTERN PANAMA AND ROUTE 25 IN NORTHWESTERN COLOMBIA WERE ESTIMATED FOR A COMBINATION OF HYPOTHETICAL EXPOSURES TO RADIATION. THE STUDIES ATTEMPTED TO DETERMINE WHEN IT MIGHT BE APPROPRIATE FOR THE EVACUATED POPULATIONS TO REENTER AREAS ADJACENT TO THE TWO ROUTES. THE ONLY MODES OF EXPOSURE CONSIDERED WERE EXTERNAL EXPOSURE TO A CONTAMINATED LAND SURFACE AND INTERNAL EXPOSURE FROM THE INGESTION OF FOUR TYPES OF CONTAMINATED FOODS AND BEVERAGES. ESTIMATES OF POTENTIAL EXTERNAL DOSES WERE BASED ON 170 RADIONUCLIDES; ONLY 31 RADIONUCLIDES WERE CONSIDERED IN DETAIL FOR THE ESTIMATION OF POTENTIAL INTERNAL DOSES.
H-3, PU-238, PU-239, PU-240, PU-241, RADIONUCLIDES, DOSE ESTIMATION, EXTERNAL DOSE, INTERNAL DOSE, RADIATION EXPOSURE, AGE DEPENDENT MODELS, INREM, EXREM, MODELS, ORGANS, SKIN, INGESTION, NUCLEAR EXCAVATION, SEA-LEVEL CANAL, CANALS, ROUTE 17, (SASARDI-MORTI), ROUTE 17 (ATRATO-TRUANDO), SR-69, 1-131, MAN, COMPUTER MODELS

07163

ATOMIC ENERGY OF CANADA LTD.

PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION.

CHALK RIVER, ONTARIO, ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, AECL-3565, 93 P., 1970, FIGS., TABS., REFS.

BRIEF SUMMARIES OF PROGRAMS CONDUCTED BY THE CHALK RIVER NUCLEAR LABORATORIES ARE GIVEN. PROGRAMS SUMMARIZED FOR H-3 IN THE ENVIRONMENT INCLUDE H-3 SURVEY OF DISPOSAL AREAS AND PERCH LAKE, H-3 SURVEY OF GROUND WATER BENEATH PERCH LAKE, H-3 IN OTTAWA PRECIPITATION AND OTTAWA RIVER WATER, HYDROGEN ISOTOPES IN PRINCE EDWARD ISLAND WELLS, H-3 IN OTTAWA TREE RINGS, H-3 IN ATMOSPHERIC HYDROGEN, AND DEUTERIUM IN PRECIPITATION AND RIVER WATER.
H-3, RADIONUCLIDES, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, PERCH LAKE, LAKES, GROUND WATER, WATER, PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER, RIVERS, TREE RINGS, ATMOSPHERIC HYDROGEN, DEUTERIUM

07164

F. BEGEMANN

MAX-PLANCK-INSTITUT FUER CHEMIE, MAINZ, GERMANY

TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 2, FOR THE PERIOD 1 NOVEMBER 1961-31 OCTOBER 1962.

MAINZ, GERMANY, MAX-PLANCK-INSTITUT FUER CHEMIE, APCRL-63-260, 12 P., 1962, 3 TABS., 7 REFS.

AVAILABILITY- NTIS, AD-298-974.

DURING THIS REPORTING PERIOD 8 SAMPLES COLLECTED AT OBERHAUSEN WERE ANALYSED FOR THEIR TRITIUM CONTENT. UNTIL THE BEGINNING OF FEB. 1962 NO SIGNIFICANT INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN WAS FOUND. FOR THE TRITIUM CONCENTRATION IN PRECIPITATION, HOWEVER, AN INCREASE TO ABOUT $T/H - 1000 \times 10^{-18}$ WAS REPORTED. AN OLD SAMPLE OF ATMOSPHERIC HYDROGEN, TAKEN AT GARY, IND. DURING 1948 WAS ANALYSED AND A TRITIUM CONTENT OF $T/H - 0.353 \times 10^{-13}$ WAS MEASURED.
H-3, RADIONUCLIDES, ATMOSPHERIC HYDROGEN, ATMOSPHERIC METHANE, PRECIPITATION (METEOROLOGICAL), CONCENTRATION, METEORITES, GERMANY, WATER

07165

A. J. COPPEN AND J. L. GIBBONS

MAUDSLEY HOSPITAL, INSTITUTE OF PSYCHIATRY, LONDON, ENGLAND

SALIVA-SERUM RATIOS OF TRITIUM AFTER THE ADMINISTRATION OF TRITIATED WATER.

NATURE, VOL. 186, PP. 724-725, 1960, 1 TAB., 3 REFS.

10 ML OF TRITIATED WATER CONTAINING 500 MICROI TRITIUM WERE GIVEN ORALLY. 3 HR LATER, SAMPLES OF VENOUS BLOOD AND SALIVA WERE COLLECTED. THE SALIVA-SERUM RATIO AT 3 HR RANGED FROM 0.98 TO 1.02 WITH A MEAN OF 1.00. THUS 3 HR AFTER ITS ORAL ADMINISTRATION THE TRITIUM IN THE SALIVARY GLAND HAD REACHED EQUILIBRIUM WITH THE WATER IN THE SERUM AND THERE WAS NO EVIDENCE THAT THE SALIVARY GLAND IS ABLE TO CONCENTRATE TRITIUM.

H-3, RADIONUCLIDES, TRITIATED WATER, CONCENTRATION, SALIVA, SERUM, MAN

07166

DANIEL W. POSTER AND JOSEPH KATZ

THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE.

BIOCHIMICA ET BIOPHYSICA ACTA, VOL. 125, PP. 422-427, 1966, 3 TABS., 12 REFS.

FATTY ACIDS SYNTHESIZED BY RAT EPIDIDYMAL PAT-PAD SLICES IN THE PRESENCE OF (1-H-3)GLUCOSE, (3-H-3)GLUCOSE AND TRITIATED WATER WERE DEGRADED FOR THE LOCALIZATION OF TRITIUM IN THE MOLECULE.

15% OF THE TRITIUM FROM (1-H-3)GLUCOSE AND 85% FROM (3-H-3)-GLUCOSE WAS PRESENT ON THE ODD CARBONS. THE INCORPORATION OF 15% OF THE TRITIUM FROM (3-H-3) GLUCOSE IN THE EVEN POSITIONS WAS UNEXPECTED. TRITIUM FROM TRITIATED WATER WAS INCORPORATED TO THE SAME EXTENT IN THE ODD AND EVEN POSITIONS OF THE CARBON CHAIN. THE PRESENCE OF TRITIUM FROM WATER IN THE ODD POSITIONS CONFIRMS THE PARTICIPATION OF DPNH HYDROGEN IN REDUCTIVE FATTY ACID SYNTHESIS IN THE INTACT ADIPOSE TISSUE CELL. THE RESULTS WITH TRITIATED WATER AND (1-H-3)GLUCOSE RESEMBLE THOSE PREVIOUSLY REPORTED FOR LIVER AND SUGGEST THAT THE MECHANISMS OF FATTY ACID SYNTHESIS ARE ESSENTIALLY SIMILAR IN THE TWO TISSUES. (AUTHS.) TRITIATED WATER, TRITIATED GLUCOSE, TRITIATED COMPOUNDS, RATS, RODENTS, MAMMALS, H-3, RADIONUCLIDES, FATTY ACIDS, RETENTION, DISTRIBUTION

07167

R. M. BROWN

ATOMIC ENERGY OF CANADA LTD., CHALK RIVER NUCLEAR LABORATORIES, CHALK RIVER, ONTARIO
DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS.

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 3-21, 1970, 13 FIGS., 3 TABS., 9 REFS. (PROCEEDINGS SERIES, STI/PUB/255)

THE PASSAGE OF BOMB TRITIUM THROUGH NATURAL WATER SYSTEMS IN CANADA HAS BEEN FOLLOWED SINCE 1954. RECENTLY THE DISTRIBUTION OF DEUTERIUM IN PRECIPITATION AND SURFACE WATERS HAS BEEN STUDIED. THESE DATA GIVE VALUABLE INFORMATION ON THE CONTINENTAL WATER CYCLE AND THE TURNOVER CHARACTERISTICS OF INDIVIDUAL RIVER BASINS. GEOGRAPHICALLY, TRITIUM AND DEUTERIUM CONCENTRATIONS HAVE BEEN FOUND TO VARY INVERSELY IN NATURAL WATERS. LOW CONCENTRATIONS OF TRITIUM AND HIGH CONCENTRATIONS OF DEUTERIUM OCCUR IN COSTAL REGIONS. AS THE MOISTURE MOVES INLAND, IT PICKS UP MORE TRITIUM FROM THE ATMOSPHERE AND IS DEPLETED IN DEUTERIUM BY PREFERENTIAL CONDENSATION OF HDO. IN THE EAST, ABSENCE OF MOUNTAIN BARRIERS ACROSS WEATHER TRACKS FROM THE GULF OF MEXICO RESULTS IN THE RELATIVELY HIGH DEUTERIUM CONCENTRATIONS IN SOUTHERN ONTARIO AND QUEBEC. STORM-TO-STORM FLUCTUATIONS IN ISOTOPE CONTENT OF PRECIPITATION OF OTTAWA REFLECT A VARIABILITY IN THE ORIGIN OF PRECIPITATING MOISTURE. SEASONAL VARIATION OF TRITIUM, DUE TO LATE SPRING FEED-IN FROM THE STRATOSPHERE, HAS BEEN PARTICULARLY PROMINENT AND REGULAR AT CANADIAN LATITUDES. DECLINING ANNUAL PEAK CONCENTRATIONS SINCE 1963 INDICATE DEPLETION OF THE STRATOSPHERIC RESERVOIR WITH A HALF-TIME OF 1.2 YRS. H-3, DEUTERIUM, RADIONUCLIDES, DISTRIBUTION, CANADA, WATER, SURFACE WATERS, PRECIPITATION (METEOROLOGICAL), HYDROLOGICAL CYCLING, ALASKA CONCENTRATION, SEASONAL VARIATIONS, GREAT LAKES, LAKES, RIVERS, GREENLAND

07168

T. DINCER, J. MARTINEC, B. R. PAYNE, AND C. K. YEN

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VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA.

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 23-42, 1970, 13 FIGS., 5 TABS., 7 REFS. (PROCEEDINGS SERIES, STI/PUB/255)

EVOLUTION OF THE ISOTOPIC COMPOSITION OF THE SNOW-PACK REFLECTS THE MOVEMENT OF MELT-WATER IN THE SNOWPACK AND ITS RELATION TO THE THERMAL CONDITIONS IN THE SNOWPACK. IT IS SEEN THAT EARLY SNOWMELT PERCOLATES THROUGH THE SNOWPACK WITHOUT MUCH MIXING WITH THE SNOW MATRIX. AT THE MIDDLE OF THE SNOWMELT PERIOD THE MELT-WATER MIXES WITH THE WATER IN THE LOWER LAYERS DURING THE PERCOLATION OF THE WATER THROUGH THE SNOWPACK. A PSEUDO-ALTITUDE EFFECT IS OBSERVED IN THE SNOWPACK DUE TO THE DISAPPEARANCE OF THE ISOTOPICALLY LIGHT EARLY WINTER SNOW FROM THE LOWER ALTITUDES WHICH ARE SUBJECT TO INTERMITTENT MELTING DURING THE WINTER MONTHS. H-3, O-18, RADIONUCLIDES, CONCENTRATION, PRECIPITATION (METEOROLOGICAL), SNOWPACK, CZECHOSLOVAKIA, SNOW, RAINFALL, WATER BALANCE

07169

D. B. SMITH, P. L. WEARN, H. J. RICHARDS, AND P. C. ROWE

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WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM.

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 73-81, 1970, 6 FIGS., 8 REFS. (PROCEEDINGS SERIES, STI/PUB/255)

MEASUREMENT OF THE NATURAL TRITIUM CONCENTRATION IN GROUNDWATER SAMPLES FROM A VERTICAL PROFILE IN THE UNSATURATED ZONE OF A FORMATION HAS BEEN USED TO PROVIDE INFORMATION ON THE DOWNWARD MOVEMENT OF WATER IN THE STRATA SINCE THE PRODUCTION OF THERMONUCLEAR TRITIUM IN 1954. THE TRITIUM PROFILES ARE EVALUATED IN TERMS OF HYDROLOGICAL MODELS TO EXAMINE THE MECHANISM OF WATER RECHARGE. TRITIUM MEASUREMENTS IN THE CHALK HAVE SHOWN THAT DOWNWARD MOVEMENT IS PRINCIPALLY BY INTERGRANULAR SEEPAGE WITH A SMALLER COMPONENT OF MOVEMENT THROUGH CRACK SYSTEMS. TWO HYDROLOGICAL MODELS OFFER ALTERNATIVE INTERPRETATION OF THE WATER RECHARGE. TRITIUM MEASUREMENTS IN A LOW-PERMEABILITY CLAY SHOW THE DOWNWARD MOVEMENT OF WATER BY INTERGRANULAR SEEPAGE AND INDICATE THAT RECHARGE OCCURS BY REPLENISHMENT OF THE SUMMER SOIL MOISTURE DEFICIT BY AUTUMN RAINFALL. (AUTHS.) H-3, RADIONUCLIDES, CONCENTRATION, GROUND WATER, WATER, MOVEMENT, MODELS, HYDROLOGICAL MODELS, RECHARGE, CLAYS, SOILS, PERMEABILITY, SOILS, CLAYS

07170

B. TH. VERHAGEN, J.P.F. SELLSCHOP, AND C.M.H. JENNINGS

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CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA.

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 289-313, 1970, 9 FIGS., 7 TABS., 13 REFS. (PROCEEDINGS SERIES, STI/PUB/255)

IN AN INVESTIGATION OF GROUNDWATER IN TWO DEFINED AREAS IN BOTSWANA AN ATTEMPT WAS MADE TO CORRELATE MEASUREMENTS OF ENVIRONMENTAL TRITIUM CONTENT WITH GEOHYDROLOGICAL FEATURES AS DETERMINED BY CONVENTIONAL METHODS. IN PARTICULAR, A CONFINED AND SIMPLE AQUIFER WAS STUDIED, TO ACT AS A TEST BENCH FOR THE INTERPRETATION OF RESULTS ON A LARGER SCALE. THIS WORK WAS EXTENDED TO SITUATIONS WHERE ENVIRONMENTAL ISOTOPES WOULD APPEAR TO BE VALUABLE ADDITIONAL TOOLS WITH WHICH TO ESTABLISH GROUNDWATER PARAMETERS. RESULTS FROM THE PROJECT THUS FAR INDICATE THE CONCENTRATIONS ENCOUNTERED ARE GENERALLY VERY LOW (0-5 TU), BUT THAT SIGNIFICANT VARIATIONS OCCUR, EVEN OVER SMALL DISTANCES. A FEATURE WHICH HAS EMERGED IS THAT GROUNDWATER AGE STRATIFICATION CAN BE DEMONSTRATED BY SPOT SAMPLING IN SOME EXISTING BOREHOLES. CORRELATION WITH RESULTS FROM LOGGING SAMPLES OBTAINED DURING THE SINKING OF NEW BOREHOLES ARE ALSO PRESENTED. THE SPECIFIC RELEVANCE OF TRITIUM MEASUREMENTS IN THESE GEOHYDROLOGICAL EXAMPLES IS IDENTIFIED. (AUTHS.) H-3, RADIONUCLIDES, GROUND WATER, WATER, SOUTH AFRICA, AQUIFERS, PRECIPITATION (METEOROLOGICAL), RECHARGE, HYDROLOGICAL CYCLING, CONCENTRATION, GROUND WATER

07171

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CONTRIBUTION DES MESURES ISOTOPIQUES A L'ETUDE DE LA PONTAINE DE VAUCLUSE. (CONTRIBUTION OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE PONTAINE DE VAUCLUSE.)

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 333-348, 1970, 6 FIGS., 1 TAB., 4 REFS. (PROCEEDINGS SERIES,

STI/PUB/255)

SINCE 1967, THE FONTAINE DE VAUCLUSE, THE ORIGINAL VAUCLUSIAN SPRING, HAS BEEN THE SUBJECT OF A JOINT STUDY BY SEVERAL ORGANIZATIONS WITH DIFFERENT SPECIALIZATIONS. THE STUDY HAS SHOWN THAT TRITIUM OF THERMONUCLEAR ORIGIN CAN, BY PROVIDING A MEANS FOR IDENTIFYING WATER, GIVE INFORMATION ON HOW THIS SPRING FUNCTIONS, DEPENDING ON ITS HYDRAULIC STATE. CARBON-14 MEASUREMENTS OF THE WATER OF THE RESERVE STRATUM HAVE PROVED THAT WATER OF GREATER AGE IS PRESENT ON THE FRINGES OF THE RAPID FEEDING AND FLOW CIRCUITS. (AUTHS.)

H-3, C-14, RADIONUCLIDES, SPRINGS, HYDROLOGY, FRANCE

07172

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STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM.

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 349-372, 1970, 8 FIGS., 5 TABS., 11 REFS. (PROCEEDINGS SERIES, STI/PUB/255)

THE DOLOMITE SERIES IS FREQUENTLY SUBDIVIDED INTO SEPARATE GROUND- WATER COMPARTMENTS BY VERTICAL DIABASE DYKES TO FORM WELL-DEFINED AQUIFERS WHICH USUALLY OVERFLOW IN STRONG SPRINGS AT THE LOWEST POINT ON THE SURFACE. THE HYDROLOGY OF ONE SUCH COMPARTMENT WAS ANALYSED TO PROVIDE FIGURES FOR THE AQUIFER CHARACTERISTICS WHICH CAN BE COMPARED IS 17.7 MM/YR AND THE STORAGE CAPACITY IS ABOUT 57 TIMES THE ANNUAL WITH THE RESULTS OF THE ISOTOPE DATA. THE RECHARGE RATE OF THE AQUIFER RECHARGE.

EXPRESSIONS FOR THE AGE DISTRIBUTION IN AN IDEALIZED MODEL OF THE AQUIFER AND THE AGE OF THE WATER DISCHARGING FROM THE SPRING ARE DERIVED AND USED TO DETERMINE THE RECHARGE AND CAPACITY FROM THE C-14 AND TRITIUM DATA. BOTH C-14 AND TRITIUM SHOW A LINEAR INCREASE IN AGE WITH DEPTH IN ACCORDANCE WITH THE THEORY. FROM THE TRITIUM RESULTS A RECHARGE RATE OF 11.5 MM/YR, AND A STORAGE CAPACITY OF 106 TIMES THE ANNUAL RECHARGE IS DEDUCED.

C-14, H-3, RADIONUCLIDES, GROUND WATER, WATER, AQUIFERS, HYDROLOGY, RECHARGE, HYDROLOGIC MODEL, MODELS, SOUTH AFRICA

07173

U. SIEGENTHALER, H. OBSCHGER, AND E. TONGIORGI

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TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND.

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 373-385, 1970, 10 FIGS., 16 REFS. (PROCEEDINGS SERIES, STI/PUB/255)

THE O-18 AND TRITIUM CONTENT IN PRECIPITATION IS USED AS A BASIS FOR INTERPRETING T/H- AND O-18/O-16-RATIOS OBSERVED IN RIVERS AND UNDERGROUND WATERS. A SPRING IN THE ALPS SHOWS NO SEASONAL VARIATIONS IN EITHER TRITIUM OR O-18. O-18 PROVIDES INFORMATION ABOUT THE MEAN ALTITUDE OF ITS RECHARGE AREA WHEREAS TRITIUM VALUES, WHICH ARE SLOWLY DECREASING, ALLOW THE COMPUTATION OF THE MEAN RESIDENCE TIME OF THE WATER IN THE GROUND. THE ISOTOPIC BEHAVIOUR OF DIFFERENT INPUTS (PRECIPITATION, LAKE AND RIVER WATER) TO THE GROUNDWATER DOWNSTREAM FROM THE LAKE OF THUN IS INVESTIGATED. MEASUREMENTS OF BOTH ISOTOPES CAN PREVENT A MISINTERPRETATION, AS DEMONSTRATED BY THE EXAMPLE OF A KARST SPRING.

DISTINCT TRITIUM VARIATIONS OCCUR WITH A SHARP MAXIMUM IN WINTER, WHICH CANNOT, HOWEVER, BE DUE TO DELAYED RAIN FROM THE PRECEDING SUMMER, SINCE O-18 IS CONSTANT WITH TIME. THE VARIATIONS CAN BE EXPLAINED BY ASSUMING SEVERAL WELL-MIXED RESERVOIRS OF DIFFERENT AGES WITH A MIXING RATIO VARYING WITH TIME. THE ISOTOPIC COMPOSITIONS OF THE CONSIDERED UNDERGROUND WATERS SUPPORT THE ASSUMPTION THAT GROUNDWATER RECHARGE OCCURS UNIFORMLY DURING ALL SEASONS. (AUTHS.)

H-3, O-18, RADIONUCLIDES, ALPS, JURA, CONCENTRATION, SPRINGS, SEASONAL VARIATIONS, RECHARGE, GROUND WATER, WATER, PRECIPITATION (METEOROLOGICAL), HYDROLOGY

07174

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ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.)

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 523-541, 1970, 9 FIGS., 4 TABS., 13 REFS. (PROCEEDINGS SERIES, STI/PUB/255)

TRITIUM WAS USED AS A TRACER IN ORDER TO DIFFERENTIATE WATERS WITH IDENTICAL PHYSICO-CHEMICAL CHARACTERISTICS. ON THE LAKE OF GENEVA CAMPAIGNS CARRIED OUT AT DIFFERENT HYDROLOGICAL PERIODS ON THE TWO MAIN AFFLUENTS REVEALED A SURFACE CURRENT, A MAIN CURRENT AT HALF DEPTH AND A TURBIDITY CURRENT IN A SUBLACUSTRIAN CANYON. THREE LAYERS WITH THEIR OWN WELL-DEFINED DYNAMIC BEHAVIOUR (0 - 50 M, 50 - 150 M AND 150 - 310 M) CORRESPOND TO THESE MOVEMENTS. ONLY THE SURFACE LAYER MAY BECOME HOMOGENEOUS IN WINTER. IN THE GIRONDE THE USE OF TRITIUM ENABLED THE AUTHORS TO DETERMINE, IN WATERS HAVING IDENTICAL OR CONSTANT SALINITIES, WHETHER THE FRESH WATERS WERE OF DIFFERENT FLUVIAL ORIGINS. IN ESTUARIES THIS METHOD SHOULD PERMIT THE STUDY OF FLOOD PROPAGATION AND THE FORMATION OF HIGH-TURBIDITY ZONES.

H-3, RADIONUCLIDES, TRACERS, LAKES, MIXING, ESTUARIES, RADIOACTIVE TRACERS, LAKE GENEVA, FRANCE, RESIDENCE TIME

07175

R. KOENIG AND J. REITINGER

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COMPARISON OF HYDROLOGICAL AND MATHEMATICAL METHODS IN ANALYSIS OF TRITIUM DATA.

IN- ISOTOPE HYDROLOGY 1970. PROCEEDINGS OF A SYMPOSIUM HELD IN VIENNA, 9-13 MARCH 1970. VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, PP. 787-800, 1970, 4 FIGS., 8 REFS. (PROCEEDINGS SERIES, STI/PUB/255)

THE FIRST PART OF THE PAPER EXAMINES A) WHETHER THE TRITIUM DATA CONFIRM EXISTING HYDROLOGICAL MODELS; B) WHETHER THE TRITIUM DATA GIVE NEW INFORMATION ABOUT THE HYDROLOGY OF THE SOUTHERN VIENNA BASIN; AND C) QUESTIONS CONCERNING THE NUMBER OF SAMPLES AND THE FREQUENCY OF SAMPLING. THESE QUESTIONS ARE TREATED IN THE SECOND PART OF THE PAPER USING STATISTICAL MATHEMATICAL METHODS. THE MEASURED TIME SERIES (ISOTOPE DATA) ARE RANDOM SAMPLES, WHICH ARE OBTAINED BY SAMPLING AT GIVEN TIMES. FOR THE CRITICISM OF THE ACCURACY OF SUCH MEASUREMENTS IT IS NECESSARY TO EVALUATE THE TOTAL NUMBER OF SAMPLES FOR A REQUIRED STATISTICAL RELIABILITY AND TO RELATE THEM TO THE REQUIRED TOTAL TIME. STATISTICAL COMPUTATIONAL METHODS GIVE PREDICTIONS ABOUT THE TIME INTERVAL FOR SAMPLING AND THE TOTAL TIME OF SAMPLING AS SHOWN IN SOME EXAMPLES DISCUSSED IN THE FIRST PART. (AUTHS.)

H-3, RADIONUCLIDES, MODELS, HYDROLOGIC MODEL, HYDROLOGY, MATHEMATICAL ANALYSIS, SPRINGS, GROUND WATER, WATER

07176

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CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.

IN- ENVIRONMENTAL SURVEILLANCE IN THE VICINITY OF NUCLEAR FACILITIES. W. C. REINIG, ED. SPRINGFIELD, ILL., CHARLES C. THOMAS PUBLISHER, PP. 309-319, 1970, 6 FIGS., 2 TABS., 16 REFS. U.S. AEC CONTRACT NO. AT(47-2)-1.

THE TIME FOR TRITIATED WATER TO APPEAR IN WATER VAPOR ABOVE A SOIL INCREASES WITH DEPTH OF PLACEMENT AND WITH DECREASING WATER CONTENT OF SOIL. TRITIATED WATER PLACED 14 TO 28 CM BELOW THE SOIL SURFACE DOES NOT EVAPORATE BEFORE 60 HR. TRITIATED WATER 28 TO 42 CM BELOW THE SOIL SURFACE DOES NOT EVAPORATE BEFORE 200 HR FROM WET SOIL AND DOES NOT EVAPORATE BEFORE 300 HR FROM MOIST SOIL. (AUTH.)

EVAPORATION, DEPTH, CONCENTRATION, ATMOSPHERE (TERRESTRIAL), SOILS, LOAM

07177

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A SURVEILLANCE TECHNIQUE FOR TRITIATED MOISTURE IN THE ATMOSPHERE.

IN- ENVIRONMENTAL SURVEILLANCE IN THE VICINITY OF NUCLEAR FACILITIES. W. C. REINIG, ED. SPRINGFIELD, ILL., CHARLES C. THOMAS PUBLISHER, PP. 382-387, 1970, 1 FIG., 3 TABS., 3 REFS.

A SIMPLE AND INEXPENSIVE ATMOSPHERIC MOISTURE SAMPLER HAS BEEN DEVELOPED. IT CONSISTS OF INDICATING SILICA GEL (APPROX. 200 GM) IN A BAG MADE OF FIBERGLASS SCREENING SUSPENDED APPROX. 6 FT OFF THE GROUND. THE SILICA GEL SAMPLERS WERE FIELD TESTED UNDER EXTREME CONDITIONS, I.E. AT LEVELS APPROACHING OUR LIMIT OF DETECTION, AND THE RESULTS WERE FOUND TO BE CONSISTENT, REPRODUCIBLE, AND IN AGREEMENT WITH OTHER RESULTS FROM METHODS FOR SAMPLING TRITIATED WATER VAPOR IN AIR.

H-3, RADIONUCLIDES, WATER VAPOR, AIR MONITORING, EQUIPMENT, INSTRUMENTS

07178

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A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES' INTERNAL EXPOSURE EXPERIENCE, 1957-1966.

IN- DIAGNOSIS AND TREATMENT OF DEPOSITED RADIONUCLIDES. H. A. KORNBERG AND W. D. NORWOOD, EDS.

AMSTERDAM, EXCERPTA MEDICA NUCLEAR MEDICINE AND BIOLOGY, NO. 2) FOUNDATION. PP 435-450, 1968, 9 TABS. (CONF-670521; MONOGRAPHS ON

A STATISTICAL SUMMARY OF LICENSEES' INTERNAL RADIATION EXPOSURE EXPERIENCE COMPILED BY THE USABC. THE SUMMARY OF 29 OCCUPATIONAL EXPOSURES INCLUDES- PHYSICAL/CHEMICAL CHARACTERISTIC OF THE RADIO- MATERIAL, ROUTE OF ENTRY AND DATE, KIND OF OPERATION, METHOD USED TO MEASURE DOSE, AND ORGAN OR PART OF BODY AFFECTED AND TREATMENT INSTITUTED. 10 TRITIUM, 6 IODINE, 3 P-32, 2 SR-90, 1 PLUTONIUM, AND SINGLE EXPOSURES TO OTHER ISOTOPES ARE REPORTED. 5 CASES INVOLVING THE MISADMINISTRATION OF I-131 AND P-32 RADIO- PHARMACEUTICALS TO PATIENTS ARE ALSO REPORTED.

H-3, PLUTONIUM, SR-90, I-131, P-32, CS-137, MIXED FISSION PRODUCTS, S-35, EU-152, EU-154, EU-156, IR-192, PO-210, RADIATION EXPOSURE, INTERNAL EXPOSURE, INHALATION, INGESTION, ABSORPTION, OCCUPATIONAL EXPOSURE, RADIOPHARMACEUTICALS, RADIONUCLIDES, RADIATION DOSE, MAN

07179

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A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS' INTERNAL EXPOSURE EXPERIENCE, 1957-1966.

IN- DIAGNOSIS AND TREATMENT OF DEPOSITED RADIONUCLIDES. H. A. KORNBERG AND W. D. NORWOOD, EDS.

AMSTERDAM, EXCERPTA MEDICA FOUNDATION, PP. 427-434, 1968, 9 TABS., 8 REFS., (CONF-670521; MONOGRAPHS ON NUCLEAR MEDICINE AND BIOLOGY, NO. 2)

INTERNAL EXPOSURE RECORDS OF 532 CASES INVOLVING ENRICHED URANIUM, PLUTONIUM, TRITIUM, PO-210, IODINE AND SR-90 ARE COMPILED. 136 INTERNAL DEPOSITIONS OF PLUTONIUM ARE REPORTED MOSTLY OCCURRING BY INHALATION. PLUTONIUM BODY BURDENS WERE USUALLY DETERMINED BY URINALYSIS. 104 CASES OF TRITIUM DEPOSITION EXCEEDING 1.25 REMS PER YEAR WERE REPORTED. ALL EXPOSURES OCCURRED BY INHALATION OR THROUGH INTACT SKIN AND URINALYSIS WAS USED IN ALL CASES TO DETERMINE THE BODY BURDEN.

RADIONUCLIDES, PLUTONIUM, URANIUM, H-3, IODINE, PO-210, SR-90, INTERNAL DEPOSITION, INTERNAL EXPOSURE, BODY BURDEN, INHALATION, STATISTICAL ANALYSIS, BIOASSAYS, URINALYSIS, RADIATION EXPOSURE, MAN

07180

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E. I. DU PONT DE NEMOURS AND CO., SAVANNAH RIVER LABORATORY, AIKEN, S.C.

ASSESSMENT OF TRITIUM IN MAN.

IN- DIAGNOSIS AND TREATMENT OF DEPOSITED RADIONUCLIDES. H. A. KORNBERG AND W. D. NORWOOD, EDS.

AMSTERDAM, EXCERPTA MEDICA FOUNDATION, PP. 534-542, 1968, 3 FIGS., 3 TABS., 9 REFS., (CONF- 670521; MONOGRAPHS ON NUCLEAR MEDICINE AND BIOLOGY, NO. 2)

THE TRITIUM CONCENTRATION IN THE URINE OF A MAN EXPOSED TO 47.5 MILLICI OF TRITIUM, PROBABLY BY INHALATION, WAS DETERMINED OVER A PERIOD OF 415 DAYS. THE ELIMINATION DATA INDICATED THREE COMPONENTS WITH DIFFERENT HALF-LIVES. AN EQUATION PREDICTING THE CONCENTRATION OF TRITIUM IN THE URINE VERSUS TIME WAS DERIVED FROM A WEIGHTED LEAST SQUARES FIT TO THE OBSERVED CONCENTRATIONS.

DATA ARE PRESENTED ON THE ASSIMILATION OF TRITIUM IN BODY WATER AND ORGANIC COMPOUNDS IN THE BODY WATER AND ORGANIC COMPOUNDS IN THE BODY AND THE DISTRIBUTION BETWEEN ORGANIC COMPOUNDS AND BODY WATER FOR A PERIOD OF 500 DAYS AFTER EXPOSURE.

H-3, MAN, RADIATION EXPOSURE, OCCUPATIONAL EXPOSURE, ASSIMILATION, INHALATION, URINE ANALYSIS, RADIONUCLIDES, ELIMINATION, BIOLOGICAL HALF-LIFE, MATHEMATICAL MODELS, MATHEMATICAL ANALYSIS, METABOLISM, HALF-LIFE, CONCENTRATION, BODY WATER, RADIATION DOSE, MODELS

07181

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FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING WASTE.

NUCLEAR SAFETY, VOL. 5(4), PP 399-403, 407-408, 1964, 1 FIG., 1 TAB., 23 REFS.

FUEL-PROCESSING OPERATIONS ARE QUITE EFFECTIVE IN DECONTAMINATING DISPOSABLE PROCESS SOLUTIONS OF SR-90, CS-137, AND OTHER FISSION PRODUCTS, EXCEPT TRITIUM. SUBSEQUENT TREATMENT PROCESSES, SUCH AS WASTE EVAPORATION AND ION EXCHANGE BY COMMERCIAL OR NATURAL SYSTEMS, ARE ALSO INEFFECTIVE IN REMOVING TRITIUM. THIS ARTICLE BRIEFLY CONSIDERS TRITIUM DISTRIBUTION IN AQUEOUS AND GASEOUS WASTES FROM FUEL-PROCESSING PLANTS, MOVEMENT OF TRITIUM IN SOIL-WATER SYSTEMS, TRITIUM ANALYTICAL METHODS, AND SITE LOCATION CONSIDERATIONS.

H-3, RADIONUCLIDES, RADIOACTIVE WASTES, LIQUID RADIOACTIVE WASTES, GASEOUS RADIOACTIVE WASTES, NUCLEAR FUEL PLANTS, MOVEMENT, SOILS, WATER, GROUND WATER, CONTAMINATION, CONCENTRATION, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, HANFORD PROJECT

07182

INTERNATIONAL ATOMIC ENERGY AGENCY.

ENVIRONMENTAL ISOTOPE DATA NO. 2. WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1964-1965). VIENNA, INTERNATIONAL ATOMIC ENERGY AGENCY, VOL. XX, 402 P., 1970, ILLUS., REFS. (TECHNICAL REPORT SERIES NO. 117, STI/DOC/10/117)

ENVIRONMENTAL ISOTOPE (TRITIUM, AND O-18) CONCENTRATIONS IN MONTHLY SAMPLES OF PRECIPITATION TAKEN BY A GLOBAL NETWORK OF 221 STATIONS IN THE PERIOD 1964-1965 ARE TABULATED. SELECTED METEOROLOGICAL DATA (AMOUNT OF PRECIPITATION, VAPOR PRESSURE, AND TEMPERATURE ARE PRESENTED. CONTENTS INCLUDE DATA PRINTOUTS, NUMERICAL STATION INDEX, ALPHABETICAL STATION INDEX, AND TRITIUM, DEUTERIUM, AND O-18 LABORATORY CODE NUMBERS.

H-3, DEUTERIUM, O-18, RADIONUCLIDES, CONCENTRATION, PRECIPITATION (METEOROLOGICAL), VAPOR PRESSURE, AIR TEMPERATURE, GLOBAL NETWORK, MONITORING

07183

JOHN C. AYERS

UNIVERSITY OF MICHIGAN

LAKE MICHIGAN ENVIRONMENTAL SURVEY. FINAL REPORT.

ANN ARBOR, MICH., UNIVERSITY OF MICHIGAN, GREAT LAKES RESEARCH DIVISION, SPECIAL REPORT NO. 49,

114 P., 1970, 1 FIGS., 47 TABS., 46 REFS.

THIS SURVEY INCLUDES A REVIEW OF THE HISTORY OF RADIOACTIVE MATERIALS, MEASUREMENTS OF THE PRESENT RADIOACTIVITY LEVELS, AND A PROVISIONAL FORECAST OF LEVELS IN THE YEAR 1975 FOR LAKE MICHIGAN.

IN ADDITION, IT INCLUDES SOME WORK ON AND TENTATIVE RESULTS FROM STABLE ELEMENT CONCENTRATION ANALYSIS. THE STUDY CONCLUDED THAT MAN-MADE RADIOACTIVITY IN LAKE MICHIGAN AT PRESENT IS PREDOMINANTLY

TRITIUM, SR-90, Y-90, AND CS-137 FROM FALLOUT OF NUCLEAR WEAPONS TESTING. THE TRITIUM AND MOST OF THE SR-90 AND Y-90 ARE IN THE WATER ENVIRONMENT. IT WAS ESTIMATED THAT TWO-THIRDS OR MORE OF THE CS-137 IS IN THE SEDIMENT. ZN-65 WAS DETECTED IN A FEW SAMPLES OF FISH, WATER, AND OTHER BIOLOGICAL ORGANISMS, BUT AT LEVELS WHICH ARE SEVERAL ORDERS OF MAGNITUDE LESS THAN THE VALUES WHICH MIGHT BE HARMFUL TO MAN. CONTRIBUTIONS OF RADIOACTIVITY FROM VARIOUS SOURCES ARE SUMMARIZED. IT CAN BE SEEN THAT CONTRIBUTIONS FROM THE ONE REACTOR NOW OPERATING ARE A SMALL PART OF THE TOTAL. RADIOACTIVITY, CONCENTRATION, H-3, SR-90, Y-90, CS-137, K-40, RA-226, ZN-65, RADIONUCLIDES, FALLOUT, ATMOSPHERIC NUCLEAR TESTING, NUCLEAR TESTING, LAKE MICHIGAN, LAKES, NUCLEAR REACTORS, WATER, SEDIMENTS, BENTHOS, ZOOPLANKTON, FISH, PHYTOPLANKTON, PLANKTON, TRIBUTARIES, CHEMICAL WASTES, RADIOACTIVE WASTES, WASTES

07184

WILLIAM H. OATES, JR.
RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER REACTORS AND THE POPULATION.
ROCKVILLE, MD., U.S. PUBLIC HEALTH SERVICE, BUREAU OF RADIOLOGICAL HEALTH, BRH/OCS-70-1, 31 P., 1970, 1 FIG., 7 TABS., 43 REFS.

RADIATION DOSE ESTIMATES RESULTING FROM THE RADIOACTIVE EFFLUENTS OF THREE NUCLEAR POWER REACTORS FOR VARIOUS PERIODS OF TIME ARE COMPARED WITH DOSES FROM NATURAL BACKGROUND RADIATION. IT APPEARS THAT FOR NORMAL OPERATING CONDITIONS THE POPULATION EXPOSURE FROM NUCLEAR POWER PLANTS REPRESENTS ONLY A SMALL FRACTION OF THE EXPOSURE RESULTING FROM NATURAL BACKGROUND RADIATION AND ALSO IS WELL WITHIN THE LIMITS OF THE RECOMMENDED RADIATION PROTECTION STANDARDS. IN CONSIDERING THE USEFUL APPLICATION OF NUCLEAR GENERATED ELECTRICAL POWER, IT IS DIFFICULT TO ASSESS THE BENEFIT IN RELATION TO THE RADIATION EXPOSURE RISK. HOWEVER, THE PRC, THE NCRP, AND THE ICRP HAVE RECOMMENDED SUBSTANTIALLY UNIFORM GUIDANCE TO LIMIT THE RADIATION EXPOSURE RISK TO THE PUBLIC. CURRENT OPINION HOLDS THAT AS LONG AS THE HUMAN DOSES FROM NUCLEAR REACTOR EFFLUENTS ARE WELL WITHIN THE PRESENTLY ESTABLISHED RADIATION PROTECTION GUIDANCE IT CAN BE ASSUMED THAT THE EXPOSURE RISK WILL BE SMALL. RADIATION EXPOSURE, NUCLEAR POWER INDUSTRY, NUCLEAR REACTORS, NUCLEAR FUEL PLANTS, DOSE ESTIMATION, RADIOACTIVE WASTES, UNITED STATES, MAN, H-3, RADIONUCLIDES

07185

DANIEL SOKOL
GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY.
PALO ALTO, CALIF., TELEDYNE ISOTOPES, U.S. AEC REPORT, PNE-1009, 42 P., 1971, 5 FIGS., 10 TABS., 13 REFS.
U.S. AEC CONTRACT NO. AT(29-2)-1229.

BASED ON AVAILABLE DATA, GROUND WATER FLOWING FROM THE GASBUGGY SITE WILL TAKE 5900 YRS TO REACH THE CONFLUENCE OF THE SAN JUAN AND LOS PINOS RIVERS. TRITIUM, SR-90, AND CS-137 WILL DECAY TO CONCENTRATIONS BELOW THE APPROPRIATE CONCENTRATION GUIDES (CG) FOR THE GENERAL PUBLIC BEFORE REACHING THE SAN JUAN RIVER. TRITIUM WILL TRAVEL A MAXIMUM OF 2100 M IN NO MORE THAN 309 YRS BEFORE DECAYING TO A CONCENTRATION OF 1×10^{-3} MILLICI/ML (THE CG FOR TRITIUM). SR-90 AND CS-137 WILL MIGRATE NO FARTHER FROM THE CAVITY THAN 320 M AND 3.5 M, RESPECTIVELY, IN 1,000 YRS. BY THIS TIME, BOTH NUCLIDES WILL HAVE DECAYED TO WELL BELOW THE CG. (FROM AUTH. ABSTR.)
GROUND WATER, WATER, PROJECT GASBUGGY, FLOWSHARE PROGRAM, H-3, SR-90, CS-137, RADIONUCLIDES, CONCENTRATION, TRANSPORT, HYDROLOGY, MIGRATION, CONTAMINATION, NEW MEXICO, GEOLOGY, MONITORING

07186

W. D. ARNOLD AND D. J. CROUSE
CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970.
OAK RIDGE, TENN., OAK RIDGE NATIONAL LABORATORY, ORNL-TM-3181, 14 P., 1970, 1 FIG., 2 TABS., 4 REFS.

ADDING WATER TO THE PRESSURE VESSEL DURING EXPOSURE OF OIL SHALE TO TRITIATED HYDROGEN OR TRITIATED METHANE DECREASED THE TRITIUM CONTAMINATION OF THE SHALE AND OF THE RETORTED SHALE OIL SLIGHTLY. IN TESTS SIMULATING STORAGE OF NATURAL GAS IN A CAVITY PRODUCED IN SHALE OF LOW PERMEABILITY, EXTENDED CONTACT OF METHANE WITH SHALE THAT WAS WETTED WITH TRITIATED WATER RESULTED IN SLIGHT TRITIUM CONTAMINATION OF THE METHANE. INITIAL ATTEMPTS TO REMOVE THE TRITIUM FROM THE TRITIUM-CONTAMINATED SHALE BY AIR PURGING WERE NOT VERY SUCCESSFUL. (FROM AUTHS. ABSTR.)
CANE, TRITIATED HYDROGEN, TRITIATED METHANE, SHALE, CONTAMINATION, TRITIATED WATER, H-3, RADIONUCLIDES, NATURAL GAS, FLOWSHARE PROGRAM, NUCLEAR EXPLOSIONS, UNDERGROUND NUCLEAR EXPLOSIONS

07187

PHILIP P. GUSTAFSON
ARGONNE NATIONAL LABORATORY, ARGONNE, ILL.
FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES FROM NUCLEAR POWER PRODUCTION.
PROCEEDINGS 13TH CONFERENCE ON GREAT LAKES RESEARCH 1970, PP 834-843, 1970, 1 FIG., 3 TABS., 6 REFS.

DURING THE 1970s, A NUMBER OF NUCLEAR POWER STATIONS WILL GO INTO OPERATION ON THE GREAT LAKES. DUE TO ITS RELEASE RATE, RADIOACTIVE HALF LIFE, AND BIOLOGICAL ACTIVITY, TRITIUM WILL ASSUME MAJOR IMPORTANCE AMONG THE REACTOR DISCHARGES TO THE LAKES. AT EQUILIBRIUM, THE REACTORS NOW UNDER CONSTRUCTION ON LAKE MICHIGAN WILL LEAD TO A LEVEL OF ABOUT 30 TO 100 T.U. IN THE LAKE, DEPENDING UPON THE MIXING ASSUMPTIONS, WHICH COMPARES WITH THE PEAK TRITIUM CONCENTRATION FROM WEAPONS TESTING REACHED IN 1963-1964. FEWER REACTORS ON THE OTHER LAKES WILL LEAD TO CORRESPONDINGLY LOWER T.U. LEVELS. LAKE MICHIGAN REPRESENTS THE MAJOR TRITIUM SOURCE IN THE GREAT LAKES SYSTEM, AND TRANSPORT OF THIS TRITIUM THROUGH THE SYSTEM IS DISCUSSED, AS IS THE BIOLOGICAL IMPLICATIONS OF THE PREDICTED TRITIUM LEVELS. (AUTH.)
H-3, RADIONUCLIDES, GREAT LAKES, LAKE MICHIGAN, LAKES, NUCLEAR REACTORS, NUCLEAR POWER INDUSTRY, CONCENTRATION, TRANSPORT, RADIOACTIVITY

07188

SANFORD G. BLOOM AND GILBERT B. RAINES
BATTELLE MEMORIAL INSTITUTE, COLUMBUS, OHIO
KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM.
IN- A TROPICAL RAIN FOREST. H. T. ODUM, ED. OAK RIDGE, TENN., U.S. ATOMIC ENERGY COMMISSION, DIVISION OF TECHNICAL INFORMATION EXTENSION, TID-24270 (PRNC-138), PP. H-123-128, 1970, 2 FIGS., 2 TABS., 6 REFS.
AVAILABILITY- NTIS.
U.S. AEC CONTRACT NO. AT(26-1)-171-2.

A MATHEMATICAL MODEL IS PRESENTED FOR THE FLOW OF HYDROGEN AND TRITIUM THROUGH THE RAIN FOREST SYSTEM AT EL VERDE, PUERTO RICO. THE MODEL USES DATA FROM CHAP. H-6 ON THE FLOW RATES OF HYDROGEN AND ITS STORAGE IN WATER AND ORGANIC MATTER OF THE FOREST. THE RESPONSE OF THE FOREST SYSTEM TO A CHARGE OF TAGGED WATER IS CALCULATED, AND THE RESULTS ARE GIVEN AS GRAPHS OF TRITIUM CONCENTRATIONS VS. TIME. THE PREDICTED TRITIUM CONCENTRATIONS IN THE WATER PHASES REACH THEIR MAXIMUM VALUES WITHIN A WEEK AND WASH OUT TO NEGLIGIBLE VALUES AFTER TWO MONTHS. MAXIMUM CONCENTRATIONS IN THE ORGANIC MATTER OF THE LITTER DEVELOP IN 350 DAYS, AND THE MAXIMUM VALUES IN WOOD DEVELOP IN 400 DAYS WITH LONG RESIDENCE TIMES MEASURED IN YEARS. (AUTH.)
MATHEMATICAL MODELS, MODELS, HYDROGEN, H-3, RADIONUCLIDES, RAINFORESTS, TROPICS PUERTO RICO, FORESTS, MOVEMENT, CONCENTRATION, LITTER, RESIDENCE TIME,

07189

J. R. KLINE AND C. P. JORDAN
PUERTO RICO NUCLEAR CENTER, SAN JUAN, P.R.
TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST.
IN- A TROPICAL RAIN FOREST. H. T. ODUM, ED. OAK RIDGE, TENN., U.S. ATOMIC ENERGY COMMISSION, DIVISION OF TECHNICAL INFORMATION EXTENSION, TID-24270 (PRNC-138). PP H-129-131, 1970, 3 FIGS., 6 REFS.

TRITIATED WATER APPLIED TO THE SURFACE OF SOIL IN A TROPICAL RAIN FOREST WAS FOUND IN FREE WATER OF THE LITTER AND THE TOP 16 CM OF SOIL AS LONG AS SEVEN MONTHS AFTER ITS APPLICATION. IT IS CONCLUDED, THEREFORE, THAT PLANT ROOTS, EVEN IN THE HIGH-RAINFALL ENVIRONMENT OF A TROPICAL RAIN FOREST, ARE EXPOSED TO TRITIATED WATER FOR A CONSIDERABLE TIME AFTER RELEASE. (AUTHS.) H-3, RADIONUCLIDES, TRITIATED WATER, MOVEMENT, SOILS, RAINFORESTS, FORESTS, LITTER, ROOTS, RESIDENCE TIME, PUERTO RICO, TROPICS

07190

U.S. CONGRESS. JOINT COMMITTEE ON ATOMIC ENERGY.
ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER.
HEARINGS OF THE 91ST CONGRESS, 2ND SESSION, 27-30 JANUARY, 24-26 FEBRUARY 1970. PT. 2, 2 VOLS.,
WASHINGTON, D.C., U.S. GOVERNMENT PRINTING OFFICE. PP 1109-2708, 1970, ILLUS., REFS.

A RECORD OF THE HEARING DATES, WITNESSES, STATEMENTS OF WITNESSES, AND ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD. PRESS RELEASES, LETTERS, PUBLISHED ARTICLES, AND ADDITIONAL REPORTS RELATED TO THE SUBJECT OF THE HEARINGS ARE PRESENTED. THE INFORMATION PRESENTED ON TRITIUM INCLUDES HALF-LIFE, ENVIRONMENTAL LEVELS AND EFFECTS, DISPOSAL, RADIOLOGICAL HAZARDS, BIOLOGICAL EFFECTS, AND REACTOR SOURCES. SOME INFORMATION IS GIVEN ON THE RADIOLOGICAL HAZARDS OF PLUTONIUM, AND THE BIOLOGICAL EFFECTS RESULTING FROM EXPOSURE TO PU-239.

H-3, RADIONUCLIDES, HALF-LIFE, BIOLOGICAL HALF-LIFE, NUCLEAR REACTORS, CONCENTRATION, SURFACE WATERS, WATER, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, FOOD-CHAINS, RADIATION DOSE, RADIOLOGICAL HAZARDS, RADIATION EFFECTS, GENETIC EFFECTS, MUTATIONS, NUCLEAR POWER INDUSTRY, PU-239, TRITIATED WATER

07191

U.S. CONGRESS. JOINT COMMITTEE ON ATOMIC ENERGY.
ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER.
HEARINGS OF THE 91ST CONGRESS, 1ST SESSION, 28-31 OCTOBER, 4-7 NOVEMBER 1969. PT. 1. WASHINGTON,
D.C., U.S. GOVERNMENT PRINTING OFFICE. 1108 P., 1969, ILLUS., REFS.

A RECORD OF THE HEARING DATES, AEC WITNESSES, STATEMENTS OF WITNESSES, AND ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD. PRESS RELEASES, LETTERS, PUBLISHED ARTICLES, AND ADDITIONAL REPORTS RELATED TO THE SUBJECT OF THE COMMISSION HEARINGS ARE PRESENTED IN 19 APPENDIXES. BROADLY STATED, THE INFORMATION PRESENTED ON TRITIUM INCLUDES ATMOSPHERIC DISCHARGE, HALF-LIFE, ENVIRONMENTAL EFFECTS, DOSE TO MAN DISPOSAL, ENVIRONMENTAL MOVEMENT, MONITORING, PRODUCTION, ENRICHMENT PROCEDURES, PROPERTIES, AND REACTOR SOURCES.

H-3, RADIONUCLIDES, NUCLEAR POWER INDUSTRY, BIOLOGICAL HALF-LIFE, HALF-LIFE, RADIATION EFFECTS, GENETIC EFFECTS, RADIOACTIVE WASTE DISPOSAL, WASTE DISPOSAL, ENRICHMENT, MOVEMENT, ENVIRONMENTAL MONITORING, FOOD-CHAINS, NUCLEAR REACTORS, RADIATION EXPOSURE, T/H RATIO, ATMOSPHERE (TERRESTRIAL), TROPOSPHERE, CONTAMINATION

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER.
PRECIPITATION (METEOROLOGICAL)
NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN
SURFACE WATERS RESIDENCE TIME DEPTH
SPECIFIC ACTIVITIES

ABSORBED DOSE

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL
NUCLEUS AFTER INCORPORATION OF H-3- OR
C-14-LABELLED THYMIDINE. CELL NUCLEUS
MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE
NUCLEIC ACIDS BETA RADIATION RADIATION DNA
DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06643 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR
TRITIATED WATER AND TRITIATED THYMIDINE.
MAXIMUM PERMISSIBLE CONCENTRATION DOSE ESTIMATION
TRITIATED WATER TRITIATED THYMIDINE
BETA RADIATION RADIATION CONCENTRATION
ABSORBED DOSE

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS
FROM PROJECT RULISON. PROJECT RULISON
FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS
ABSORBED DOSE DOSE ESTIMATION INHALATION
FOOD-CHAINS DNA FLARING RAINOUT WASHOUT
INGESTION RADIATION DOSE WHOLE BODY EXPOSURE
RADIATION EXPOSURE RADIOLOGICAL HAZARDS
GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

ABSORPTION

04147 RADIOACTIVITY AND HUMAN DIET.
RADIOACTIVITY MAN RADIATION EXPOSURE
CONTAMINATION MILK FOOD-CHAINS FALLOUT
VEGETATION ABSORPTION SOILS ANIMALS METABOLISM
PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH
FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM
ENVIRONMENTS FOODS CALCIUM

04893 RADIOISOTOPE ABSORPTION AND METHODS OF
ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF
ENTRY. ABSORPTION ELIMINATION MAN SKIN
INGESTION LUNGS GASTROINTESTINAL TRACT
CONTAMINATION

05105 TRITIUM ET EAU-TRITIE- DUREES LIMITEES
DEXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU
RENOUVELOB (TRITIUM AND TRITIATED WATER- TIME
LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR
REGENERATED ATMOSPHERES). CONTAMINATION
ACCIDENTS ABSORPTION EQUATIONS MATHEMATICS
TISSUES DIFFUSION TRITIATED WATER

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY
PEOPLE. ABSORPTION INHALATION SKIN
CONTAMINATION BODY WATER URINE BODY FLUIDS
ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE
TRITIATED WATER WATER VAPOR

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL
FIELD STUDIES. TRITIATED WATER TRANSPIRATION
TREES PLANTS TRACERS ABSORPTION SOIL MOISTURE
DEPTH

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE
AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION
METABOLISM KIDNEY BEANS BEANS PH CROPS
LEGUMES PLANTS VEGETABLES RETENTION LIGHT
TRITIUM OXIDE TRITIUM GAS

06226 MONITORING FOR TRITIUM AT LOW LEVELS.
ABSORPTION BETA RADIATION RADIATION URINE
INSTRUMENTS BODY BURDEN MAN MONITORING
TRITIATED WATER

06261 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND
GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY
TRITIUM TRACING. TRACERS ROCK QUERCUS
FAGACEAE PLANTS TREES ROOTS GROUND WATER
ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER
HYDROGEOLOGY

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS
DIVISION, APRIL 1 TO JUNE 30, 1969.
PRECIPITATION (METEOROLOGICAL) RIVERS GASES
INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR
CANADA TRITIATED WATER

06328 THE ABSORPTION OF INGESTED TRITIUM WATER
AND THE WATER DILUTION VOLUME OF MAN.
GASTROINTESTINAL TRACT MAN URINE INGESTION
ABSORPTION BLOOD TRANSFER TRITIATED WATER

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND
TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE
OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS
MAN PRESSURE WHOLE BODY EXPOSURE
RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH
PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN
BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT
IONIZATION CHAMBER SCINTILLATION COUNTERS
PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS
DIVISION, OCTOBER 1 TO DECEMBER 31, 1968.
RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS
EQUIPMENT ABSORPTION SKIN
PRECIPITATION (METEOROLOGICAL) MAN

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN
THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES
BODY WATER SNAILS GASTROPODS AQUATIC LIFE
MOLLUSKS ABSORPTION FISH RETENTION
TRITIUM OXIDE SALMON PLY MAYPLY NYMPHS

06380 EFFECT OF RADIATION ON THE INCORPORATION OF
TRITIUM BY THE RAT. OXIDES RATS MAMMALS
RODENTS TISSUES TRITIUM OXIDE ABSORPTION

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT
FOLLOWING EXPOSURE TO TRITIUM GAS. RATS MAMMALS
RODENTS ABSORPTION TRITIUM GAS TRITIUM OXIDE
DISTRIBUTION METABOLISM

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT
FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE.
GASES RATS MAMMALS RODENTS ABSORPTION
TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES
DISTRIBUTION METABOLISM ORGANS

06424 THE BODY ABSORPTION, DISTRIBUTION, AND
EXCRETION OF TRITIUM IN MAN AND ANIMALS.
ABSORPTION DISTRIBUTION EXCRETION MAN GASES
MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS
TRITIATED WATER GASTROINTESTINAL TRACT SKIN
BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN
MAN. RETENTION EXCRETION MAN PHYSIOLOGY
TOXICITY TRACERS RADIOACTIVE TRACERS
MAXIMUM PERMISSIBLE CONCENTRATION SKIN
GASTROINTESTINAL TRACT ABSORPTION
TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN
RADIATION EXPOSURE RADIOLOGICAL HAZARDS
METABOLISM BIOLOGICAL HALF-LIFE

06599 TRITIUM HAZARDS; A GENERAL LECTURE FOR
THOSE WHO WORK AROUND HEAVY WATER. OXIDES
HAZARDS WHOLE BODY EXPOSURE ABSORPTION
RADIATION EXPOSURE
MAXIMUM PERMISSIBLE CONCENTRATION SAFETY
TRITIUM OXIDE EXCRETION

06605 SKIN CONTACT TRANSFER OF TRITIUM FROM
BRASS. SKIN TRANSFER BRASS ABSORPTION
BODY WATER URINE ANALYSIS

06626 REMOTE TRITIUM AIR MONITORING SYSTEM.
WHOLE BODY EXPOSURE RADIATION EXPOSURE
SAVANNAH RIVER PLANT HAZARDS ABSORPTION
CLOTHING TRITIUM OXIDE ENVIRONMENTAL MONITORING

06631 ASSESSMENT OF TRITIUM IN MAN.
SAVANNAH RIVER PLANT ABSORPTION
CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS
MODELS URINE ANALYSIS BODY WATER MAN

06635 BIOLOGY AND HEALTH PHYSICS DIVISION,
PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968.
PRECIPITATION (METEOROLOGICAL) RIVERS SKIN
ABSORPTION WATER VAPOR GASES
ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS
EQUIPMENT CANADA ALASKA GREENLAND
TRITIATED WATER

06784 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE.
TRITIUM OXIDE PERCUTANEOUS ABSORPTION MICE RATS
PULMONARY ABSORPTION ABSORPTION MAN

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS
ASSOCIATED WITH ACUTE EXPOSURE TO HIGH
CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER
RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES
BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION
WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE
SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION
VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN
RESPIRATORY TRACT BODY FLUIDS
TRITIATED WATER VAPOR

06866 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND
TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF
DIFFERENT CHLORIDE STATUS. TRITIATED WATER
ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT
CL-36 UPTAKE TRANSPORT

06869 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). TRITIATED WATER DUCKS ABSORPTION BIRDS PLASMA

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. TRITIATED DIMETHOATE TOXICITY METABOLISM INSECTS ABSORPTION TRITIATED COMPOUNDS

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIVANIE VREMENI GODA I TEMPERATURY NA VSASYVANIE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

07084 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

07102 A RELATION BETWEEN PROTIUM/TRITIUM AND PROTIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT 07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIFERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

ACCIDENTS

05105 TRITIUM ET EAU TRITIEE- DUREES LIMITES DEPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE (TRITIUM AND TRITIATED WATER- TIME LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR REGENERATED ATMOSPHERES). CONTAMINATION ACCIDENTS ABSORPTION EQUATIONS MATHEMATICS TISSUES DIFFUSION TRITIATED WATER

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY. CO-60 ACCIDENTS ELIMINATION HALF-LIFE MAN BIOLOGICAL HALF-LIFE RADIATION EXPOSURE RADIATION DOSE

06346 AN APPROXIMATION OF RADIATION DOSE RESULTING FROM AN ACCIDENTAL RELEASE OF TRITIUM GAS. GASES DOSE ESTIMATION RADIATION ACCIDENTS TRITIUM GAS

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLEIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06814 A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE. ACCIDENTS ATMOSPHERE (TERRESTRIAL) GASES HYDROGEN TRITIATED HYDROGEN WINDSCALE NUCLEAR REACTORS

ACCUMULATION

04066 RECIPIENT CAPACITY OF SVAREN, A BALTIC BAY.

BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS ACCUMULATION ECOSYSTEMS 06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS CONCENTRATION SOILS DEPTH

ACCUMULATION RATE

06976 TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA. ANTARCTIC FIRN PROFILES FALLOUT SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ACCUMULATION RATE

ACIDS

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

ACTINIUM

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

ACTIVATION

06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS. GAS-GRAPHITE REACTORS HEAVY WATER REACTORS LATINA REACTOR NUCLEAR REACTORS ACTIVATION HAZARDS TRITIATED WATER RADIOLOGICAL HAZARDS

ACTIVATION ANALYSIS

07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS SARGASSO SEA OCEANS SR-90 FALLOUT ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION DEPTH ACTIVATION ANALYSIS

ADENINE

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINE DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

ADSORPTION

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

06636 HEALTH PHYSICS AND MEDICAL DIVISION, PROGRESS REPORT, JANUARY-DECEMBER, 1967. BRASS SKIN ADSORPTION TRANSFER

AFRICA

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

AGAR GEL

06850 DIFFUSION OF TRITIATED WATER (H-3 H-1 0-16) IN AGAR GEL AND WATER. TRITIATED WATER DIFFUSION COEFFICIENT AGAR GEL

AGE

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN AGE TEMPERATURE WATER HALF-LIFE ANALYSIS SAVANNAH RIVER PLANT

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER. MEASUREMENT C-14 RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY RADIOACTIVE AGE DETERMINATION AGE GROUND WATER AQUIFERS

05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT. HALF-LIFE EFFECTIVE HALF-LIFE ASSIMILATION MAN BIOLOGICAL HALF-LIFE TEMPERATURE WEIGHT AGE

06218 TRITIUM CONTENT AS AN INDICATOR OF AGE AND MOVEMENT OF GROUND WATER IN THE ROSWELL BASIN, NEW MEXICO. MOVEMENT AGE TRACERS NEW MEXICO CONCENTRATION GROUND WATER

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06689 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1962. BIOLOGICAL HALF-LIFE TRITIATED WATER MAN BODY WEIGHT AGE TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE BIOASSAY

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

AGE-DEPENDENT MODELS

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

AQ-110

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AQ-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

AIR

06824 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1964 AND 1964 SUMMARY. PLUTONIUM POLONIUM AIR WATER MIAMI RIVER

ENVIRONMENTAL MONITORING

06825 ENVIRONMENTAL MONITORING; SEMIANNUAL REPORT, JANUARY-JUNE, 1964. AIR PLUTONIUM POLONIUM WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06826 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1965. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06827 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1965 AND 1965 SUMMARY. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06832 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1966. POLONIUM PLUTONIUM MIAMI RIVER AIR WATER ENVIRONMENTAL MONITORING CONCENTRATION

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. AIR ATMOSPHERIC TRITIUM WATER VAPOR TRANSFER LAKES LAKE TAHOE TRANSFER RATES EQUATIONS

07013 TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN SPECIFIC ACTIVITIES ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING AIR

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

AIR MASSES

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

AIR MONITORING

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

AIR POLLUTION

06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR LA VAPEUR D'EAU TRITIÉE AUPRÈS DE LA PILE BL 3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR BL 3). AIR POLLUTION WATER VAPOR CONTAMINATION POLLUTION GASES EQUIPMENT NUCLEAR REACTORS TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

AIR TEMPERATURE

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSASYVANIIE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

07077 ENVIRONMENTAL ISOTOPE DATA NO. L; WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1953-1963). DEUTERIUM O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE AIR TEMPERATURE GLOBAL NETWORK MONITORING

AIRBORNE CONTAMINATION

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS RAINFALL PRECIPITATION (METEOROLOGICAL) AIRBORNE CONTAMINATION CHEMICAL COMPOSITION RADIOACTIVITY

06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR LA VAPEUR D'EAU TRITIÉE AUPRÈS DE LA PILE BL 3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR BL 3). AIR POLLUTION WATER VAPOR CONTAMINATION POLLUTION GASES EQUIPMENT NUCLEAR REACTORS TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

AIRBORNE PARTICULATES

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN DIETS WATER ORGANS MONITORING NETWORKS AIRBORNE PARTICULATES

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ENVIRONMENTAL MONITORING STACK EMISSIONS I-129 KR-85 CONCENTRATION AIRBORNE PARTICULATES RADIOACTIVITY

ALASKA

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. LONG SHOT CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS ALASKA AMCHITKA ISLAND ALUTIAN ISLANDS WATER SPECTROCHEMICAL ANALYSIS

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS LONG SHOT CONTAMINATION SURFACE WATERS GROUND WATER MOVEMENT

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND

TRITIATED WATER

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

06985 TRITIUM IN STREAMS IN THE UNITED STATES, 1961-1966. STREAMS CONCENTRATION UNITED STATES ALASKA SAMPLING STREAM DISCHARGE SAMPLING NETWORKS

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN 1962 AND 1963. RAINOUT WASHOUT SEASONAL VARIATIONS PERIODIC VARIATIONS DISTRIBUTION UNITED STATES CONCENTRATION PRECIPITATION (METEOROLOGICAL) SAMPLING SAMPLING NETWORKS ALASKA PUERTO RICO

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION PLOWSHARE PROGRAM ALUTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING AMCHITKA ISLAND WATER

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA SURFACE WATERS PRECIPITATION (METEOROLOGICAL) HYDROLOGICAL CYCLING CONCENTRATION SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS ALASKA GREENLAND

ALDOSTERONE

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

ALUTIAN ISLANDS

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. LONG SHOT CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS ALASKA AMCHITKA ISLAND ALUTIAN ISLANDS WATER SPECTROCHEMICAL ANALYSIS

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS LONG SHOT CONTAMINATION SURFACE WATERS GROUND WATER MOVEMENT

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION PLOWSHARE PROGRAM ALUTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING AMCHITKA ISLAND WATER

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

ALGAE

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY GROWING CHLORELLA PYRENOIDOSA CELLS. METABOLISM CHLORELLA ALGAE CHLOROPHYTA PLANTS DEUTERIUM TRACERS

06343 METABOLISM OF HYDROGEN ISOTOPES BY ALGAE. METABOLISM ALGAE PLANTS DEUTERIUM

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS GROWTH TRITIUM OXIDE RADIATION EFFECTS

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY RADIATION EFFECTS

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE. CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM METABOLISM

06195 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

ALLANTOIC SAC

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND GLYCINE BETWEEN MATERIAL AND PORTAL BODY FLUIDS IN RABBITS AND PIGS. C-14 UREA GLYCINE PERITONEUM PIGS RABBITS ALLANTOIC SAC TRITIATED WATER TRANSFER BODY FLUIDS TRITIATED WATER

ALPHA RADIATION

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06805 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, JULY-DECEMBER, 1964 AND ANNUAL SUMMARY, 1964. RADIATION WASTE WATER FISSION PRODUCTS ALPHA RADIATION BETA RADIATION ATMOSPHERE (TERRESTRIAL)

06819 SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966. OHIO RIVER SHIPPINGPORT ATOMIC POWER STATION RADIOACTIVE WASTES ENVIRONMENTAL MONITORING RADIOACTIVITY ALPHA RADIATION BETA RADIATION

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06881 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION, BETA RADIATION RADIATION

GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

ALPINE

06269 TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. PRECIPITATION (METEOROLOGICAL) SNOW ALPINE ALPS MOUNTAINS FIRN PROFILES

ALPS

06269 TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. PRECIPITATION (METEOROLOGICAL) SNOW ALPINE ALPS MOUNTAINS FIRN PROFILES

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. O-18 ALPS CONCENTRATION SPRINGS SEASONAL VARIATIONS RECHARGE GROUND WATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

ALTITUDE

06878 TRITIUM CONCENTRATION IN PRECIPITATION, 1967-1968. ENVIRONMENTS ALTITUDE SEASONAL VARIATIONS HYDROLOGICAL CYCLING PRECIPITATION (METEOROLOGICAL) RAINFALL CONCENTRATION

AMCHITKA ISLAND

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. LONG SHOT CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS ALASKA AMCHITKA ISLAND ALUTIAN ISLANDS WATER SPECTROCHEMICAL ANALYSIS

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS LONG SHOT CONTAMINATION SURFACE WATERS GROUND WATER MOVEMENT

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION PLOWSHARE PROGRAM ALUTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING AMCHITKA ISLAND WATER

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

AMERICIUM

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE, BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

AMINO ACIDS

06427 MEASUREMENT OF S PERIOD IN GROWING CELL POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE LABELING WITH H-3- AND C-14-THYMIDINE. C-14 TAGGING GROWTH THYMIDINE AMINO ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

06954 BEISPIELE FÜR DEN INTRAZELLULÄREN TRITIUM-STOPFWECHSEL (EXAMPLES FOR THE INTRACELLULAR TRITIUM METABOLISM). INTRANUCLEAR LABELING CELLS AMINO ACIDS LIPIDS NUCLEIC ACIDS METABOLISM

AM-241

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION-EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

ANALYSIS

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN AGE TEMPERATURE WATER HALF-LIFE ANALYSIS SAVANNAH RIVER PLANT

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06228 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. SURFACE WATERS NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN INPUT-OUTPUT ANALYSIS ANALYSIS RESIDENCE TIME

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06353 DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE SOLAR ORIGIN OF NATURAL TRITIUM. DISTRIBUTION MATHEMATICAL ANALYSIS ANALYSIS PRODUCTION RATE NORTH AMERICA ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION

06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF CYCLIC DRYING. WATER VAPOR GASES CELLULOSE CHEMICAL REACTIONS EXCHANGE REACTIONS CHEMICAL ANALYSIS ANALYSIS

06384 APPROACHES TO THE CALCULATION OF LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL PURPOSES. NUCLEAR EXPLOSIONS EXPLOSIONS KR-85 C-14 MATHEMATICAL ANALYSIS ANALYSIS MAXIMUM PERMISSIBLE CONCENTRATION

06401 SIMPLIFIED SOLID-STATE SCINTILLATION COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN BIOLOGICAL AND ORGANIC MATERIALS. C-14 CL-36 RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS SCINTILLATION COUNTING TRITIATED COMPOUNDS

06458 LOW-LEVEL COUNTING BY LIQUID SCINTILLATION I TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS.

SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS

06463 TRITIUM IN SURFACE WATERS OF THE UNITED STATES, 1966. SURFACE WATERS ANALYSIS BODY BURDEN MEDICINE MEASUREMENT SAMPLING

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06483 DETERMINATION OF TRITIUM IN WATER AND URINE. ELECTROLYSIS SCINTILLATION COUNTING CHEMICAL ANALYSIS ANALYSIS URINE WATER URINE ANALYSIS

06486 TRITIUM AND ITS COMPOUNDS. CHEMICAL REACTIONS CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS SAFETY RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS ANALYSIS PHYSICAL PROPERTIES

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS URINE ANALYSIS SAVANNAH RIVER PLANT

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. SCINTILLATION COUNTING EQUIPMENT ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS CHEMISTRY BIOASSAY

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING CHEMICAL REACTIONS ANALYSIS RADIOCHEMICAL ANALYSIS BIOCHEMISTRY CHEMICAL ANALYSIS ISOTOPE EXCHANGE TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY HAZARDS CHEMICAL SYNTHESIS

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS ANALYSIS ETHANE CHEMICAL ANALYSIS ORGANIC COMPOUNDS ETHYLENE CONCENTRATION GERMANY

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06631 ASSESSMENT OF TRITIUM IN MAN. SAVANNAH RIVER PLANT ABSORPTION CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS MODELS URINE ANALYSIS BODY WATER MAN

06634 ACTIVITIES OF THE BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER NUCLEAR LABORATORIES. RADIOCHEMICAL ANALYSIS ANALYSIS BODY BURDEN CHEMICAL ANALYSIS EQUIPMENT URINE ANALYSIS

ANATIDAE

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

ANDROPOGON

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS NICHX, PROGRESS REPORT. OPUNTIA CACTACEAE
FLOWERING PLANTS PLANTS PHENOLOGY
DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134
MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES
TRITIATED WATER BIOGEOCHEMICAL CYCLING

ANIMALS

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION
NUCLEAR TESTING ATOLLS SEA WATER RAINWATER
SAMPLING WOOD ANIMALS LEAVES LITTER
PACIFIC PROVING GROUNDS

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD
VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS
RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS
MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE
CONTAMINATION MILK FOOD-CHAINS FALLOUT
VEGETATION ABSORPTION SOILS ANIMALS METABOLISM
PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH
PORAGE LEAVES RADIATION ROOTS DIETS CALCIUM
ENVIRONMENTS FOODS CALCIUM

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER
RADIATION DOSE MODELS TISSUES MAN
RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS
ANIMALS REVIEW

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER
CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION
ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND
TSUNAMIS BIOLOGICAL EFFECTS
UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK
WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES
NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

ANTARCTIC

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME
STRATOSPHERE RAINFALL
PRECIPITATION (METEOROLOGICAL)
NORTH PACIFIC OCEAN PACIFIC OCEAN ARCTIC
ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06847 TRITIUM CONTENT OF ANTARCTIC SNOW. ANTARCTIC SNOW CONCENTRATION
PRECIPITATION (METEOROLOGICAL)

06872 TRITIUM CONTENT OF ANTARCTIC SNOW. ANTARCTIC SNOW PRECIPITATION (METEOROLOGICAL)
CONCENTRATION

06976 TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA. ANTARCTIC FIRN PROFILES FALLOUT
SNOW PRECIPITATION (METEOROLOGICAL)
CONCENTRATION ACCUMULATION RATE

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES. ELECTROLYTIC ENRICHMENT ENRICHMENT CONCENTRATION
SNOW PRECIPITATION (METEOROLOGICAL)
THERMAL DIFFUSION RECOVERY ANTARCTIC

ANTIBIOTICS

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. TRITIATED ACTINOMYCIN D ANTIBIOTICS
OCCYTE NUCLEUS NUCLEUS NUCLEOLI DNA LABELING
POLYPEPTIDES

AQUATIC ANIMALS

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS
ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

AQUATIC ECOSYSTEMS

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS

ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

AQUATIC LIFE

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS
CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS
CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS
OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS
PELECYPODA MILK COLUMBIA RIVER RIVERS
TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64
ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58
CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS
PASTURES LIVESTOCK COWS K-40 GRASSLANDS
THYROID GLAND DOMESTIC ANIMALS ORGANS

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES
BODY WATER SNAILS GASTROPODS AQUATIC LIFE
MOLLUSKS ABSORPTION FISH RETENTION
TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

06788 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION
FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS
UPTAKE CONCENTRATION INVERTEBRATES
BIOLOGICAL HALF-LIFE

06789 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS FINAL REPORT JUNE 1, 1962 THROUGH JULY 31, 1964. TRITIUM OXIDE TOXIC EFFECTS
TRITIATED WATER BODY WATER RADIATION EFFECTS
AQUATIC LIFE

06792 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS, SUMMARY AND PROGRESS REPORT, JUNE 1, 1962 THROUGH JULY 31, 1963. TRITIUM OXIDE
TOXIC EFFECTS RADIATION EFFECTS AQUATIC LIFE

06959 A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS FROG SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER. FROGS AQUATIC LIFE
PERMEABILITY COEFFICIENT TRITIATED WATER
ISOTOPE EFFECT SKIN TRANSFER

AQUIPERS

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER. MEASUREMENT C-14
RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY
RADIOACTIVE AGE DETERMINATION AGE GROUND WATER
AQUIPERS

06261 AQUIPER STORAGE DETERMINATION BY RADIOTRACER TECHNIQUES. TRACERS WATER STORAGE
AQUIPERS MODELS MATHEMATICAL MODELS
GROUND WATER CONCENTRATION

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS
CANADA PERCH LAKE RADIOACTIVE WASTES WASTES
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES
GROUND WATER TRITIATED WATER

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968, BIOLOGY AND HEALTH PHYSICS DIVISION. ATMOSPHERE (TERRESTRIAL) CANADA RIVERS
GROWTH RINGS SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS DEPOSITION STRATOSPHERE
TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER
CONTAMINATION RADIATION HANFORD PROJECT
RADIOACTIVE WASTE DISPOSAL BETA RADIATION
RH-RU-106 WASTE DISPOSAL AQUIPERS SR-90 CS-137

06612 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER 1968. RU-106 GROUND WATER CONTAMINATION
HANFORD PROJECT AQUIPERS CONCENTRATION

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA. WELLS AQUIPERS
IRRIGATION GROUND WATER CALIFORNIA VELOCITY
NUCLEAR TESTING MOVEMENT

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966. NATIONAL REACTOR TESTING STATION
RADIOACTIVE WASTE DISPOSAL HYDROLOGY
WASTE DISPOSAL CHROMIUM GROUND WATER
SURFACE WATERS AQUIPERS RADIOACTIVE WASTES
TRACERS

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL SR-90 GROUND WATER SURFACE WATERS AQUIPERS RADIOACTIVE WASTES

06780 MEASURING SUBSURFACE SPRING FLOW WITH RADIOTRACERS. TRACERS TRITIATED WATER SPRINGS SUBSURFACE FLOW AQUIPERS

06857 TRITIUMGEHALTE IN WASSER TIEFERER GRUNDWASSERSTOCKWERKE (TRITIUM CONTENT OF WATER IN DEEP GROUNDWATER BASINS). AQUIPERS GROUND WATER

06867 TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS OF THE U S GEOLOGICAL SURVEY RESEARCH PROGRAM. AQUIPERS GROUND WATER RADIOACTIVE DECAY HALF-LIFE HYDROLOGICAL CYCLING HYDROLOGY FALLOUT

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AQ-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07089 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY- JUNE, 1968. GROUND WATER CONTAMINATION CONCENTRATION MAXIMUM PERMISSIBLE CONCENTRATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL AQUIPERS HANFORD PROJECT RU-106

07102 A RELATION BETWEEN PROTIUM/TRITIUM AND PROTIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIPERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA. GROUND WATER SOUTH AFRICA AQUIPERS PRECIPITATION (METEOROLOGICAL) RECHARGE HYDROLOGICAL CYCLING CONCENTRATION

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. C-14 GROUND WATER AQUIPERS HYDROLOGY RECHARGE HYDROLOGIC MODELS MODELS SOUTH AFRICA

ARCHAEOLOGY

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

ARCTIC

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

ARCTIC OCEAN

06788 TRITIUM TRACER IN ARCTIC PROBLEMS. TRACERS SEA WATER ICE OCEANS ARCTIC OCEAN MIXING EXCHANGE CONCENTRATION

ARGONNE NATIONAL LABORATORY

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

AR-37

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS PLOWSHARE PROGRAM KR-85 XB-133 AR-37 C-14 VEGETATION PROJECT RULISON

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-L4 IN ATMOSPHERIC RESERVOIRS. AR-37 AR-39 C-14 RADIATION RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION KRYPTON XENON

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND CHEMICAL ANALYTICAL RESULTS. KR-85 AR-37 AR-39 OXIDES PROJECT GASBUGGY CONCENTRATION C-14 TRITIATED WATER

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY PLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS PLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XB-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

AR-39

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-L4 IN ATMOSPHERIC RESERVOIRS. AR-37 AR-39 C-14 RADIATION RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION KRYPTON XENON

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND CHEMICAL ANALYTICAL RESULTS. KR-85 AR-37 AR-39 OXIDES PROJECT GASBUGGY CONCENTRATION C-14 TRITIATED WATER

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY PLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS PLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XB-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

AR-41

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL SUMMARY, 1968. RIVERS WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41 ILLINOIS RIVER DES PLAINES RIVER ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

06945 DETECTION ET MEASURE DE LA CONTAMINATION PAR LE TRITIUM DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF GASES AND VAPORS BY TRITIUM). AR-41 TRITIATED WATER TRITIUM DETECTION MEASUREMENT

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS. AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT THYROID GLAND BONE WHOLE BODY EXPOSURE NUCLEAR REACTORS

ASIA

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

ASSIMILATION

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE
RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN
AGE TEMPERATURE WATER HALF-LIFE ANALYSIS
SAVANNAH RIVER PLANT

05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT. HALF-LIFE
EFFECTIVE HALF-LIFE ASSIMILATION MAN
BIOLOGICAL HALF-LIFE TEMPERATURE WEIGHT AGE

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION
DEER PATS MAMMALS BODY WATER BODY FLUIDS
RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY
SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE
T/H RATIO

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS. RADIOLOGICAL HAZARDS
HEAVY WATER REACTORS NUCLEAR REACTORS
CONCENTRATION ASSIMILATION URINE
BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

07160 ASSESSMENT OF TRITIUM IN MAN. MAN
RADIATION EXPOSURE OCCUPATIONAL EXPOSURE
ASSIMILATION INHALATION URINE ANALYSIS
ELIMINATION BIOLOGICAL HALF-LIFE
MATHEMATICAL MODELS MATHEMATICAL ANALYSIS
METABOLISM HALF-LIFE CONCENTRATION BODY WATER
RADIATION DOSE MODELS

AS-76

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968
ENVIRONMENTAL RADIATION
MAXIMUM PERMISSIBLE CONCENTRATION P-32
DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER
GROUND WATER FALLOUT FISH MILK P-32 SC-46
CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24
CU-64 AS-76 SB-122 MAN ORGANS

ATLANTIC OCEAN

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE
OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES.
ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS
SURFACE WATERS CIRCULATION MIXING
ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

06252 THE GEOCHEMISTRY OF TRITIUM.
PRECIPITATION (METEOROLOGICAL)
NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY
GROUND WATER SURFACE WATERS ATLANTIC OCEAN
METEOROLOGY RAINWATER OCEANOGRAPHY MIXING
RUNOFF CIRCULATION COSMIC RADIATION RADIATION
THERMOCLINE PRODUCTION RATE SEA WATER

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER
SPECIFIC ACTIVITIES SEA WATER SALINITY
TEMPERATURE THERMOCLINE MIXING TRANSPORT
ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS
EQUATORIAL CURRENTS

07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS
SARGASSO SEA OCEANS SR-90 FALLOUT
ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION
DEPTH ACTIVATION ANALYSIS

ATMOSPHERE (TERRESTRIAL)

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. SR-90 DISTRIBUTION
DEPOSITION FALLOUT SAMPLING
ATMOSPHERE (TERRESTRIAL) HTO/SR-90 RATIO

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD
VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS
RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS
MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION
MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
TROPOSPHERE MIXING RETENTION

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24
SI-32 P-32 S-35 S-38 CL-36 CL-38 CL-39
HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

COSMIC RADIATION ENVIRONMENTS

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION
ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER
LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS
PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING
EXCHANGE VERTICAL DISTRIBUTION

06204 TRITIUM CONTENT OF ATMOSPHERIC METHANE AND ETHANE. GASES METHANE ETHANE NUCLEAR REACTORS
ATMOSPHERE (TERRESTRIAL) T/H RATIO

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE
OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES.
ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS
SURFACE WATERS CIRCULATION MIXING
ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

06231 THE ATMOSPHERIC TRANSPORT OF TRITIUM.
ATMOSPHERE (TERRESTRIAL)
PRECIPITATION (METEOROLOGICAL) TRANSPORT
EQUATIONS TRITIATED WATER CIRCULATION

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE AND SOURCES OF TRITIATED METHANE. HYDROGEN GASES
METHANE NUCLEAR POWER INDUSTRY T/H RATIO
ATMOSPHERE (TERRESTRIAL) TRITIATED METHANE

06241 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN
GASES DEUTERIUM GERMANY

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR
EXPLOSION IN WESTERN COLORADO.
UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING
NUCLEAR TESTING TRANSPORT CONTAMINATION
ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY
HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO
PLOWSHARE PROGRAM, PROJECT GASBUGGY
PROJECT RULISON

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE.
ATMOSPHERE (TERRESTRIAL)
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
PRECIPITATION (METEOROLOGICAL) STRATOSPHERE
OCEANS SURFACE WATERS RAINWATER TRANSPORT
DEPOSITION MODELS CONCENTRATION RAINFALL

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES.
HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS
CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS
CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS
OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS
PELECYPODA MILK COLUMBIA RIVER RIVERS
TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64
ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58
CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS
PASTURES LIVESTOCK COWS K-40 GRASSLANDS
THYROID GLAND DOMESTIC ANIMALS ORGANS

06259 TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC METHANE. ATMOSPHERE (TERRESTRIAL) METHANE
GASES GERMANY DEUTERIUM INDIANA

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN
GREENLAND CANADA ALASKA RIVERS INSTRUMENTS
PRECIPITATION (METEOROLOGICAL)
ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06353 DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE SOLAR ORIGIN OF NATURAL TRITIUM. DISTRIBUTION
MATHEMATICAL ANALYSIS ANALYSIS PRODUCTION RATE
NORTH AMERICA ATMOSPHERE (TERRESTRIAL)
COSMIC RADIATION

06354 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. HYDROGEN GASES METHANE
ATMOSPHERE (TERRESTRIAL)

06363 MORATORIUM TRITIUM GEOPHYSICS.
SURFACE WATERS ATMOSPHERE (TERRESTRIAL)
NUCLEAR EXPLOSIONS EXPLOSIONS FALLOUT MOVEMENT
STRATOSPHERE TROPOSPHERE

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968, BIOLOGY AND HEALTH PHYSICS DIVISION.
ATMOSPHERE (TERRESTRIAL) CANADA RIVERS
GROWTH RINGS SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS DEPOSITION STRATOSPHERE
TROPOSPHERE RETENTION AQUIFERS MOVEMENT

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS. C-14 TREES PLANTS RAINWATER TROPOSPHERE ATMOSPHERE (TERRESTRIAL) STRATOSPHERE GROWTH RINGS CONCENTRATION

06460 NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS. C-14 KR-85 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES PLANTS RAINWATER CONCENTRATION

06464 TRITIATED MOISTURE IN THE ATMOSPHERE SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ATMOSPHERE (TERRESTRIAL) MOISTURE SAMPLING TRITIATED WATER VAPOR

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. MONITORING ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210 RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER MIAMI RIVER

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ENVIRONMENTAL RADIATION RADIATION MONITORING PLUTONIUM POLONIUM RIVERS GROUND WATER ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06613 DIFFUSION OF TRITIATED MOISTURE FROM A STREAM STREAMS ATMOSPHERE (TERRESTRIAL) MOISTURE DIFFUSION RADIOACTIVE WASTE DISPOSAL TRITIATED WATER VAPOR RADIOACTIVE WASTES

06614 A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE. ACCIDENTS ATMOSPHERE (TERRESTRIAL) GASES HYDROGEN TRITIATED HYDROGEN WINDSCALE NUCLEAR REACTORS

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. CONTAMINATION RADIOACTIVE TRACERS TRACERS STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS TRITIATED WATER ATMOSPHERE (TERRESTRIAL) DISTILLATION SCINTILLATION COUNTING

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968 PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

06787 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTES ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC RESERVOIRS. AR-37 AR-39 C-14 RADIATION RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION KRYPTON XENON

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06797 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. NATIONAL REACTOR TESTING STATION LITHOSPHERE ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06798 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06799 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06805 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, JULY-DECEMBER, 1964 AND ANNUAL SUMMARY, 1964. RADIATION WASTE WATER FISSION PRODUCTS ALPHA RADIATION BETA RADIATION ATMOSPHERE (TERRESTRIAL)

06837 ISOTOPIC STUDIES OF ATMOSPHERIC METHANE, ETHANE, AND KRYPTON. KR-85 TRITIATED METHANE TRITIATED ETHANE ATMOSPHERE (TERRESTRIAL)

06849 CALCULATION OF LOW-ENERGY NEUTRON FLUX IN THE ATMOSPHERE BY THE S SUB N METHOD. C-14 NEUTRON FLUX SN METHOD COSMIC RAY NEUTRONS RADIATION ATMOSPHERE (TERRESTRIAL)

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90 RAINFALL FALLOUT RADIATION STRATOSPHERE ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT RESIDENCE TIME

06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90. SOVIET NUCLEAR TESTS TROPOSPHERIC EXCHANGE TROPOSPHERE SR-90 C-14 ATMOSPHERE (TERRESTRIAL) MIXING

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

06893 TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN ATMOSPHERE (TERRESTRIAL) HYDROGEN FALLOUT RH-102 TROPOSPHERE STRATOSPHERE DEUTERIUM NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06895 NATURAL TRITIUM. BACKGROUND RADIATION ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) SEA WATER ENVIRONMENTAL RADIATION RADIATION COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL SUMMARY, 1968. RIVERS WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41 ILLINOIS RIVER DES PLAINES RIVER ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

06900 A STUDY OF THE DIFFUSION AND MIXING OF TRITIUM GAS IN AIR. ATMOSPHERE (TERRESTRIAL) DIFFUSION MIXING TRITIUM GAS

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS. FALLOUT C-14 ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY BETA RADIATION GAMMA RADIATION

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE). ATMOSPHERE (TERRESTRIAL) LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS PERIODIC VARIATIONS

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER. DEUTERIUM HYDROGEN RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06962 DER NATUERLICHE TRITIUMHAUSHALT DER ERDE UND DIE PRAGE SEINER ZEITLICHEN VARIATION. (THE NATURAL TRITIUM BALANCE OF THE EARTH AND THE QUESTION OF ITS CHRONOLOGICAL VARIATION). ATMOSPHERE (TERRESTRIAL) DISTRIBUTION PERIODIC VARIATIONS WATER

06965 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS RAINWATER GERMANY CONCENTRATION RAINOUT WASHOUT ATMOSPHERE (TERRESTRIAL) PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL)

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06968 COSMIC-RAY PRODUCTION OF DEUTERIUM AND TRITIUM IN THE EARTH'S ATMOSPHERE. COSMIC RADIATION PRODUCTION RATE ATMOSPHERE (TERRESTRIAL) DEUTERIUM RADIATION

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07047 A STUDY OF LOW ENERGY GALACTIC COSMIC RAYS FROM 1961 TO 1965. ATMOSPHERE (TERRESTRIAL) DEUTERIUM COSMIC RAY NEUTRONS PRODUCTION RATE COSMIC RADIATION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL SAFETY REPORT GB-2R PHASE I PROGRAM. WATER VEGETATION SOILS CONCENTRATION ATMOSPHERE (TERRESTRIAL) PROJECT GASBUGGY SAMPLING NETWORKS PLOWSHARE PROGRAM

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY PLOWSHARE PROGRAM FLARING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D EAU TRITIEE. (EFFECTS

ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07154 THE PRODUCTION OF TRITONS AND C-14 IN THE TERRESTRIAL ATMOSPHERE BY SOLAR PROTONS. TRITON C-14 ATMOSPHERE (TERRESTRIAL) SOLAR PROTONS SOLAR FLARES PRODUCTION RATE

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE. TRITIATED WATER TRITIATED WATER VAPOR SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION ATMOSPHERE (TERRESTRIAL) SOILS LOAM

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STROPOSPHERE CONTAMINATION

ATMOSPHERIC HYDROGEN

06844 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN AND METHANE. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE SURFACE WATERS CASTLE TESTS

06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC TRITIUM FROM THERMONUCLEAR EXPLOSIONS). PRECIPITATION (METEOROLOGICAL) RAINFALL ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING FRANCE

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. WATER VAPOR METHANE ATMOSPHERIC HYDROGEN CONCENTRATION STRATOSPHERE DEUTERIUM SPECIFIC ACTIVITIES

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

07013 TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN SPECIFIC ACTIVITIES ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING AIR

07017 NEW TRITIUM AND DEUTERIUM MEASUREMENTS IN ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN CONCENTRATION ATMOSPHERIC NUCLEAR TESTING

07018 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. DEUTERIUM CONCENTRATION ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PERIODIC VARIATIONS

07020 AN ADDITIONAL MEASUREMENT OF THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN OF 1949. ATMOSPHERIC HYDROGEN T/H RATIO

07026 TRITIUM-ANSTIEG IM ATMOSPHAERISCHEN WASSERSTOFF. (TRITIUM INCREASE IN ATMOSPHERIC HYDROGEN.) ATMOSPHERIC HYDROGEN CONCENTRATION TROPOSPHERE

07078 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 1, 1960-OCTOBER 31, 1961. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE T/H RATIO

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

07164 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 2, FOR THE PERIOD 1 NOVEMBER 1961--31 OCTOBER 1962. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE PRECIPITATION (METEOROLOGICAL) WATER CONCENTRATION METEORITES GERMANY

ATMOSPHERIC METHANE

06844 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN AND METHANE. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE SURFACE WATERS CASTLE TESTS

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

07078 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 1, 1960--OCTOBER 31, 1961. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE T/H RATIO

07164 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 2, FOR THE PERIOD 1 NOVEMBER 1961--31 OCTOBER 1962. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE PRECIPITATION (METEOROLOGICAL) WATER CONCENTRATION METEORITES GERMANY

ATMOSPHERIC NUCLEAR TESTING

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING RADIATION DOSE DOSE ESTIMATION GROUND WATER FALLOUT ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RADIOACTIVE WASTES

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1968. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE. ATMOSPHERIC NUCLEAR TESTING

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06854 TRITIUM FALLOUT OVER NORTH AMERICA FROM THE SOVIET TESTS IN 1961. RADIATION ATMOSPHERIC NUCLEAR TESTING FALLOUT

06856 ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER. TRITIATED HYDROGEN TRITIATED WATER TRITIATED METHANE C-14 ATMOSPHERIC NUCLEAR TESTING TRITIATED COMPOUNDS STRATOSPHERE

06893 TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN FALLOUT RH-102 TROPOSPHERE STRATOSPHERE DEUTERIUM NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06938 TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER. DEUTERIUM HYDROGEN RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC TRITIUM FROM THERMONUCLEAR EXPLOSIONS). PRECIPITATION (METEOROLOGICAL)

RAINFALL ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING FRANCE

06964 THE DETERMINATION OF TRITIUM IN NATURAL WATERS. RAINWATER SEA WATER SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING CANADA WASHOUT

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

07008 TRITIUM RAINOUT IN THE UNITED STATES DURING 1966, 1967, AND 1968. RAINOUT FALLOUT PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING DISTRIBUTION RAINFALL SAMPLING NETWORKS

07013 TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN SPECIFIC ACTIVITIES ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING AIR

07017 NEW TRITIUM AND DEUTERIUM MEASUREMENTS IN ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN CONCENTRATION ATMOSPHERIC NUCLEAR TESTING

07018 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. DEUTERIUM CONCENTRATION ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PERIODIC VARIATIONS

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

ATMOSPHERIC TRITIUM

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. ATMOSPHERIC TRITIUM DOSIMETERS PHOTOGRAPHIC DOSIMETERS THERMOLUMINESCENT DOSIMETERS RADIOPHOTOLUMINESCENT DOSIMETERS MONITORING PERSONNEL MONITORING

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. AIR ATMOSPHERIC TRITIUM WATER VAPOR TRANSFER LAKES LAKE TAHOE TRANSFER RATES EQUATIONS

07116 MEANS OF DETECTING AND PROTECTING AGAINST TRITIUM. ATMOSPHERIC TRITIUM CONTAMINATION INSTRUMENTS DETECTION DIFFUSION DECONTAMINATION

ATOLLS

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

AUSTRIA

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. SEASONAL VARIATIONS PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL) GROUND WATER AUSTRIA KARST MIXING MODELS SURFACE WATERS CONCENTRATION

AUTORADIOGRAPHY

06350 TRITIUM IN BIOLOGY. TRACERS BIOLOGICAL INDICATORS AUTORADIOGRAPHY RADIOBIOLOGY RADIOCHEMISTRY

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS CHEMICAL REACTIONS RADIATION EFFECTS CELLS HYDROLOGY PHYSICS CHEMISTRY TRACERS AUTORADIOGRAPHY BIOLOGICAL SYSTEMS TRITIATED COMPOUNDS

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING CHEMICAL REACTIONS ANALYSIS RADIOCHEMICAL ANALYSIS BIOCHEMISTRY CHEMICAL ANALYSIS ISOTOPE EXCHANGE TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY HAZARDS CHEMICAL SYNTHESIS

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS. FALLOUT C-14 ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY BETA RADIATION GAMMA RADIATION

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

AUTO-ALLERGIC PROCESSES

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJECTED WITH TRITIUM OXIDE. TRITIUM OXIDE IMMUNOLOGICAL REACTIVITY DOGS MAMMALS RADIATION EFFECTS RADIATION DOSE BIOLOGICAL EFFECTS AUTO-ALLERGIC PROCESSES

AZ-65

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

BACKGROUND RADIATION

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

06895 NATURAL TRITIUM. BACKGROUND RADIATION ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) SEA WATER ENVIRONMENTAL RADIATION RADIATION COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

BACTERIA

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. OXIDATION MAMMALS BACTERIA PLANTS MICROORGANISMS RATS RODENTS PHYSIOLOGY

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL SUSPENSIONS. CHEMICAL REACTIONS ENZYMES BACTERIA PLANTS MICROORGANISMS BIOLOGICAL FIXATION HYDROGENATION

06663 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E. COLI)). TRITIATED WATER BACTERIOPHAGES RADIATION BETA RADIATION MICROORGANISMS HOSTS BACTERIA GROWTH RADIATION EFFECTS

06865 ON THE DIFFERENCE BETWEEN THE LETHAL EFFECTS OF H-3 AND P-32 IN BACTERIA. MORTALITY P-32 BACTERIA MICROORGANISMS DNA CELLS RADIATION EFFECTS MATHEMATICAL MODELS

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07068 THE EFFECTS OF TRITIUM DECAY ON DNA. PROGRESS REPORT FOR THE PERIOD 1 JANUARY-31 DECEMBER 1967. RADIOACTIVE DECAY DNA ESCHERICHIA BACTERIA MICROORGANISMS RADIATION EFFECTS RADIOSENSITIVITY

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. TRITIATED COMPOUNDS RADIATION EFFECTS GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA MICROORGANISMS BACTERIOPHAGES LETHALITY MUTATIONS ESCHERICHIA RADIATION DOSE

07128 EFFET LETAL DE LA DESINTEGRATION D ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORES DANS UNE BACTERIE. (LETHAL EFFECT ON BACTERIUM OF DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32). C-14 P-32 RADIOACTIVE DECAY RADIATION EFFECTS BACTERIA MICROORGANISMS GENETIC EFFECTS LETHALITY

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13 TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

BACTERIOPHAGES

06863 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E. COLI)). TRITIATED WATER BACTERIOPHAGES RADIATION BETA RADIATION MICROORGANISMS HOSTS BACTERIA GROWTH RADIATION EFFECTS

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES.
TRITIATED COMPOUNDS RADIATION EFFECTS
GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA
MICROORGANISMS BACTERIOPHAGES LETHALITY
MUTATIONS ESCHERICHIA RADIATION DOSE

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13.
TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA
BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA
RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

BALTIC SEA

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY.
BALTIC SEA FOOD-CHAINS ACCUMULATION
RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA
FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137
PU-239

06876 STOCKHOLM NATURAL TRITIUM MEASUREMENTS I
DEUTERIUM OCEANS BALTIC SEA
PRECIPITATION (METEOROLOGICAL) RAINWATER

BARRIERS

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY
THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS
WATER EXCHANGE BARRIERS WATER BALANCE LUNGS
SKIN BODY WATER GASTROINTESTINAL TRACT
PHYSICAL PROPERTIES

BASALT

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT
THE NATIONAL REACTOR TESTING STATION, IDAHO.
TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER
FLOW RATES WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL IDAHO
NATIONAL REACTOR TESTING STATION CONCENTRATION
TRANSPORT BASALT IGNEOUS ROCK ROCK

07039 TENTION AND MIGRATION OF RADIOACTIVE
ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL
REACTOR TESTING STATION-IDAHO. CO-60 CR-51
I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES
WASTES HYDROLOGY MIGRATION RETENTION REGOLITH
BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL
WASTE DISPOSAL CONTAMINATION
NATIONAL REACTOR TESTING STATION WELLS AQUIFERS

BA-CA-140

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT
JULY-DECEMBER 1966. SAVANNAH RIVER PLANT
ENVIRONMENTAL RADIATION VEGETATION FRESH WATER
RADIATION ALGAE FISH MONITORING
GAMMA RADIATION FALLOUT NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103
RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140
ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65
MN-54 MAXIMUM PERMISSIBLE CONCENTRATION
ATMOSPHERE (TERRESTRIAL)

BA-LA-140

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT,
JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL)
SAVANNAH RIVER RIVERS BACKGROUND RADIATION
FALLOUT ENVIRONMENTAL RADIATION RADIATION
VEGETATION MILK DAIRY PRODUCTS FOODS NP-239
I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106
ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51
S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

BA-140

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT,
JULY THROUGH DECEMBER 1969. RADIOACTIVITY
TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL)
WATER VEGETATION FISH MILK GAMMA RADIATION
CS-137 CS-134 CE-141 CE-144 RU-103 RU-106
ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239
MONITORING SAVANNAH RIVER PLANT

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967.
(REPORT OF ACTIVITIES; SEPTEMBER 1967.)
RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER
MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95
RU-103 RH-106 I-131 CS-137 BA-140
THYROID GLAND BONE FISH SEA WATER COWS
LIVESTOCK

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE
NATIONAL LABORATORY; REPORT FOR 1964.

ENVIRONMENTAL MONITORING
ARGONNE NATIONAL LABORATORY RADIOACTIVITY
AIR MONITORING MONITORING CONTAMINATION
SAWMILL CREEK DES PLAINES RIVER RIVERS
RADIOACTIVE WASTES SR-90 TRITIATED WATER
ALPHA RADIATION BETA RADIATION SR-89 BA-140
CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM
SURFACE WATERS VEGETATION SOILS

BEANS

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE
AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION
METABOLISM KIDNEY BEANS BEANS PH CROPS
LEGUMES PLANTS VEGETABLES RETENTION LIGHT
TRITIUM OXIDE TRITIUM GAS

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM
OF THE BEAN PLANT USING THO, P-32, AND C-14.
P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS
VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06344 COMPARATIVE METABOLISM OF PROTIUM,
DEUTERIUM AND TRITIUM IN THE BEAN PLANT.
METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS
VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE
PROTIUM OXIDE OXIDES DEUTERIUM

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR
TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN
PLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION
SOIL PROFILES VEGETABLES CORN RADISHES
POTATOES BEANS MELONS ONIONS
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

BEHAVIOR

06278 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR
POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE
ENVIRONMENT. BEHAVIOR ENVIRONMENTS OXIDATION
FALLOUT RESIDENCE TIME STRATOSPHERE OCEANS
TRITIATED WATER

BENTHIC FAUNA

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1965 APPENDICES.
HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS
CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS
CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS
OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS
PELECYPODA MILK COLUMBIA RIVER RIVERS
TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64
ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58
CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS
PASTURES LIVESTOCK COWS K-40 GRASSLANDS
THYROID GLAND DOMESTIC ANIMALS ORGANS

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS
REPORT, 1968-1969. Y-90 SR-90 CRASSOSTREA
OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS
CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

BENTHOS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1965 APPENDICES.
HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS
CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS
CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS
OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS
PELECYPODA MILK COLUMBIA RIVER RIVERS
TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64
ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58
CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS
PASTURES LIVESTOCK COWS K-40 GRASSLANDS
THYROID GLAND DOMESTIC ANIMALS ORGANS

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS
REPORT, 1968-1969. Y-90 SR-90 CRASSOSTREA
OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS
CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL
REPORT. RADIOACTIVITY SR-90 CONCENTRATION
Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT
NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING
LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS
BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON
CHEMICAL WASTES RADIOACTIVE WASTES

BETA RADIATION

BETA RADIATION ENVIRONMENTS FOODS

06226 MONITORING FOR TRITIUM AT LOW LEVELS.
ABSORPTION BETA RADIATION RADIATION URINE
INSTRUMENTS BODY BURDEN MAN MONITORING
TRITIATED WATER

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

06391 THE DESTRUCTION OF RIBOFLAVIN, BIOTIN AND FOLIC ACID IN VERY DILUTE AQUEOUS SOLUTION BY TRITIUM BETA RADIATION. VITAMINS BETA RADIATION RADIATION RADIOSENSITIVITY RADIATION EFFECTS

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06433 BIOLOGICAL APPLICATIONS OF TRITIUM. RADIOACTIVE TRACERS TRACERS BETA RADIATION RADIATION BIOLOGICAL SYSTEMS DEUTERIUM METABOLISM BIOLOGICAL HALF-LIFE

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELLED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DNA DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER CONTAMINATION RADIATION HANFORD PROJECT RADIOACTIVE WASTE DISPOSAL BETA RADIATION RH-RU-106 WASTE DISPOSAL AQUIPERS SR-90 CS-137

06609 ANALYSIS OF EXTERNAL EXPOSURES IN 1966. RADIATION EXPOSURE WHOLE BODY EXPOSURE GAMMA RADIATION DOSIMETRY BETA RADIATION

06793 CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS, JANUARY-DECEMBER, 1964. HANFORD PROJECT GROUND WATER MONITORING ISOCONCENTRATION LINES CONCENTRATION BETA RADIATION RADIOACTIVE WASTES

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06805 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, JULY-DECEMBER, 1964 AND ANNUAL SUMMARY, 1964. RADIATION WASTE WATER FISSION PRODUCTS ALPHA RADIATION BETA RADIATION ATMOSPHERE (TERRESTRIAL)

06808 ENVIRONMENT RADIOACTIVITY AT THE SHIPPINGPORT ATOMIC POWER STATION FOR THE SECOND HALF OF 1963 AND FOR CALENDAR YEAR 1963. SHIPPINGPORT ATOMIC POWER STATION OHIO RIVER FALLOUT BETA RADIATION RADIOACTIVE WASTES

06818 A METHOD FOR EVALUATING SURFACE CONTAMINATION OF SOFT BETA EMITTERS. LIQUID SCINTILLATION COUNTING SURFACE CONTAMINATION CONTAMINATION BETA RADIATION

06819 SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966. OHIO RIVER SHIPPINGPORT ATOMIC POWER STATION RADIOACTIVE WASTES ENVIRONMENTAL MONITORING RADIOACTIVITY ALPHA RADIATION BETA RADIATION

06822 RADIOACTIVITY IN NEW YORK SURFACE WATER, JANUARY-JUNE 1968. RADIATION NEW YORK SURFACE WATERS BETA RADIATION SR-89 SR-90 RADIOACTIVITY

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT,

JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06838 A METHOD OF STUDYING METABOLIC REACTIONS DURING BETA-IRRADIATION. CELLS CHLORELLA METABOLISM BETA RADIATION TRITIATED WATER

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

06843 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR TRITIATED WATER AND TRITIATED THYMIDINE. MAXIMUM PERMISSIBLE CONCENTRATION DOSE ESTIMATION TRITIATED WATER TRITIATED THYMIDINE BETA RADIATION RADIATION CONCENTRATION ABSORBED DOSE

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

06863 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E. COLI)). TRITIATED WATER BACTERIOPHAGES RADIATION BETA RADIATION MICROORGANISMS HOSTS BACTERIA GROWTH RADIATION EFFECTS

06861 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS. FALLOUT C-14 ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY BETA RADIATION GAMMA RADIATION

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). DETECTION RADIATION WATER VAPOR METHANE ORGANIC GASES PROPORTIONAL COUNTER MONITORING BETA RADIATION HYDROGEN

06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). RADIATION PROPORTIONAL COUNTER COUNTERS MEASUREMENT SURFACE CONTAMINATION CONTAMINATION LIQUID SCINTILLATION COUNTING BETA RADIATION

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07115 THE USE OF WATER AS A SAMPLING MEDIUM FOR TRITIUM OXIDE. BETA RADIATION HANFORD PROJECT ENVIRONMENTAL MONITORING OXIDES SAMPLING TRITIUM OXIDE CONTAMINATION

BEVERAGES

06253 THE NATURAL DISTRIBUTION OF TRITIUM. COSMIC RADIATION SURFACE WATERS RADIATION DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES WINES PRODUCTION RATE PRECIPITATION (METEOROLOGICAL) T/H RATIO

BE-10

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

BE-7

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

BIBLIOGRAPHY

06932 PROPRIETES PHYSIQUES MOLECULAIRES DES ISOTOPES DE L'HYDROGENE ET DE LEURS COMBINAISONS ISOTOPIQUES; ETUDE BIBLIOGRAPHIQUE (MOLECULAR AND PHYSICAL PROPERTIES OF THE HYDROGEN ISOTOPES AND OF THEIR ISOTOPIC COMBINATIONS; BIBLIOGRAPHICAL COMPILATION). DEUTERIUM MOLECULAR PROPERTIES BIBLIOGRAPHY PHYSICAL PROPERTIES

06934 TRITIUM (H-3); A BIBLIOGRAPHY OF UNCLASSIFIED LITERATURE. DEUTERIUM BIBLIOGRAPHY NUCLEAR PROPERTIES PHYSICAL PROPERTIES TRACERS

06957 THE CHEMICAL AND BIOLOGICAL ASPECTS OF TRITIUM; A BIBLIOGRAPHY OF REPORT AND PUBLISHED LITERATURE REFERENCES FROM 1950 TO DATE. BIOLOGICAL PROPERTIES CHEMICAL PROPERTIES BIBLIOGRAPHY

06958 TRITIUM (A BIBLIOGRAPHY). URINE ANALYSIS METABOLISM BIBLIOGRAPHY

06960 TRITIUM DETECTION AND MEASUREMENT; A BIBLIOGRAPHY. MEASUREMENT DETECTION BIBLIOGRAPHY

07004 BIBLIOGRAPHY ON TRITIUM IN GROUNDWATER AND AS GROUNDWATER TRACER (1964-1965). GROUND WATER BIBLIOGRAPHY TRACERS HYDROLOGY

07057 LITERATURE SURVEY ON PRODUCTION OF TRITIUM. BIBLIOGRAPHY TRITIUM PRODUCTION

07114 HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM. BIBLIOGRAPHY HEALTH HAZARDS ENVIRONMENTAL MONITORING DOSIMETRY GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS RADIATION EXPOSURE PHYSIOLOGY

BIOASSAY

06295 RECOMMENDED PROCEDURES FOR TRITIUM. BIOASSAY URINE INSTRUMENTS EQUIPMENT

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968

THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. SCINTILLATION COUNTING EQUIPMENT ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS CHEMISTRY BIOASSAY

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06689 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1962. BIOLOGICAL HALF-LIFE TRITIATED WATER MAN BODY WEIGHT AGE TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE BIOASSAY

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN, INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

BIOCHEMISTRY

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE PLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY RADIATION EFFECTS

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER. FATTY ACIDS ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER BIOCHEMISTRY

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING CHEMICAL REACTIONS ANALYSIS RADIOCHEMICAL ANALYSIS BIOCHEMISTRY CHEMICAL ANALYSIS ISOTOPE EXCHANGE TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY HAZARDS CHEMICAL SYNTHESIS

BIOGEOCHEMICAL CYCLING

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

BIOLOGICAL DOSE EQUIVALENTS

07101 EVALUATION OF POTENTIAL HAZARDS FROM TRITIUM WATER. RADIOLOGICAL HAZARDS TRITIATED WATER BIOLOGICAL DOSE EQUIVALENTS EXCRETION CONCENTRATION ORGANS DNA GENETIC EFFECTS

BIOLOGICAL EFFECTIVENESS

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

06469 HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM OXIDE. MAXIMUM PERMISSIBLE CONCENTRATION RADIATION EXPOSURE OXIDES BIOLOGICAL EFFECTIVENESS TRITIUM OXIDE RADIOLOGICAL HAZARDS

06490 TRITIUM-LABELED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06632 SOME FACTORS INFLUENCING INTERPRETATION OF STUDIES OF BODY WATER AND ELECTROLYTES WITH ISOTOPIC TRACERS. TRACERS RADIOACTIVE TRACERS BODY WATER BIOLOGICAL EFFECTIVENESS DEUTERIUM CHLORIDES

BIOLOGICAL EFFECTS

06796 FATE OF RADIOACTIVE CONTAMINANTS IN WATER, PROGRESS REPORT NO 2, FOR THE PERIOD MAY 1, 1958 TO JUNE 30, 1959. CHEMICAL EFFECTS BIOLOGICAL EFFECTS ESTUARINE ENVIRONMENTS MARINE ENVIRONMENT SEA WATER

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS FETUS EMBRYO

07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. DNA TRITIATED THYMIDINE GENETIC EFFECTS BIOLOGICAL EFFECTS MUTATIONS RELATIVE BIOLOGICAL EFFECTIVENESS CELLS CELL NUCLEUS

07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE. TRITIATED THYMIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS RADIATION EFFECTS BIOLOGICAL EFFECTS GENETIC EFFECTS MUTATIONS

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. LABELLING TRITIATED THYMIDINE CHROMOSOMES DNA BIOLOGICAL EFFECTS RADIATION EFFECTS RETENTION GENETIC EFFECTS

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE. TRITIUM OXIDE IMMUNOLOGICAL REACTIVITY DOGS MAMMALS RADIATION EFFECTS RADIATION DOSE BIOLOGICAL EFFECTS AUTO-ALLERGIC PROCESSES

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS.

TRITIUM OXIDE RADIATION EFFECTS TOXICITY BIOLOGICAL EFFECTS DOGS METABOLISM BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE EXCRETION

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEBPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

BIOLOGICAL FIXATION

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL SUSPENSIONS. CHEMICAL REACTIONS ENZYMES BACTERIA PLANTS MICROORGANISMS BIOLOGICAL FIXATION HYDROGENATION

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

BIOLOGICAL HALF-LIFE

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN AGE TEMPERATURE WATER HALF-LIFE ANALYSIS SAVANNAH RIVER PLANT

05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT. HALF-LIFE EFFECTIVE HALF-LIFE ASSIMILATION MAN BIOLOGICAL HALF-LIFE TEMPERATURE WEIGHT AGE

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY. CO-60 ACCIDENTS ELIMINATION HALF-LIFE MAN BIOLOGICAL HALF-LIFE RADIATION EXPOSURE RADIATION DOSE

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD ELIMINATION TRITIATED WATER RADIATION DOSE DOSE RATES MAN

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPDOMYS DESERTI WITH TRITIATED WATER. BODY WATER BODY FLUIDS KANGAROO RATS RODENTS MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION XEROPHIL METABOLISM

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER I GROSS STUDIES ON METABOLISM MICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION 1-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06263 BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE HALF-LIFE MAN BODY WATER

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS.

ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06433 BIOLOGICAL APPLICATIONS OF TRITIUM. RADIOACTIVE TRACERS TRACERS BETA RADIATION RADIATION BIOLOGICAL SYSTEMS DEUTERIUM METABOLISM BIOLOGICAL HALF-LIFE

06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS URINE ANALYSIS SAVANNAH RIVER PLANT

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. TRITIUM OXIDE METABOLISM MICE RATS MAN EXCRETION SPECIFIC ACTIVITIES BIOLOGICAL HALF-LIFE

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS UPTAKE CONCENTRATION INVERTEBRATES BIOLOGICAL HALF-LIFE

06836 THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS. TRITIATED WATER PATS SKIN BODY FLUIDS RETENTION SPECIFIC ACTIVITIES TISSUES BIOLOGICAL HALF-LIFE

06861 INTERNE KONTAMINATION MIT TRITIUM (INTERNAL CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE RADIATION EFFECTS RADIATION EXPOSURE

06889 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1962. BIOLOGICAL HALF-LIFE TRITIATED WATER MAN BODY WEIGHT AGE TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE BIOASSAY

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE PECS BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS. RADIOLOGICAL HAZARDS HEAVY WATER REACTORS NUCLEAR REACTORS CONCENTRATION ASSIMILATION URINE BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. TRITIUM OXIDE RADIATION EFFECTS TOXICITY BIOLOGICAL EFFECTS DOGS METABOLISM BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE EXCRETION

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WATERS RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STROPOSPHERE CONTAMINATION

BIOLOGICAL INDICATORS

06350 TRITIUM IN BIOLOGY. TRACERS BIOLOGICAL INDICATORS AUTORADIOGRAPHY RADIOBIOLOGY RADIOCHEMISTRY

BIOLOGICAL MATERIALS

07141 A NEW PROCEDURE OF LIQUID-SCINTILLATION COUNTING IN PLASTIC BAGS FOR H-3, C-14 AND P-32 IN BIOLOGICAL MATERIALS. LIQUID SCINTILLATION COUNTING C-14 P-32 RADIOASSAY BIOLOGICAL MATERIALS

BIOLOGICAL PROCESSES

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS UPTAKE CONCENTRATION INVERTEBRATES BIOLOGICAL HALF-LIFE

BIOLOGICAL PROPERTIES

06957 THE CHEMICAL AND BIOLOGICAL ASPECTS OF TRITIUM; A BIBLIOGRAPHY OF REPORT AND PUBLISHED LITERATURE REFERENCES FROM 1950 TO DATE. BIOLOGICAL PROPERTIES CHEMICAL PROPERTIES BIBLIOGRAPHY

BIOLOGICAL SYSTEMS

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. FRACTIONATION DEUTERIUM BIOLOGICAL SYSTEMS RATS MAMMALS RODENTS

T/D RATIO BODY WATER

06433 BIOLOGICAL APPLICATIONS OF TRITIUM. RADIOACTIVE TRACERS TRACERS BETA RADIATION RADIATION BIOLOGICAL SYSTEMS DEUTERIUM METABOLISM BIOLOGICAL HALF-LIFE

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS CHEMICAL REACTIONS RADIATION EFFECTS CELLS HYDROLOGY PHYSICS CHEMISTRY TRACERS AUTORADIOGRAPHY BIOLOGICAL SYSTEMS TRITIATED COMPOUNDS

BIOLOGY

06423 ACTIVITIES OF ABCL IN THE FIELDS OF BIOLOGY, HEALTH PHYSICS AND MEDICINE. MEDICINE BIOLOGY DOSIMETRY ENVIRONMENTAL RADIATION RADIATION SAFETY

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

BIOSYNTHESIS

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS PATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

BIRDS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06860 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). TRITIATED WATER DUCKS ABSORPTION BIRDS PLASMA

BI-210

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

BLOOD

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD ELIMINATION TRITIATED WATER RADIATION DOSE DOSE RATES MAN

06328 THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN. GASTROINTESTINAL TRACT MAN URINE INGESTION ABSORPTION BLOOD TRANSFER TRITIATED WATER

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

BLOOD PRESSURE

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

BLOTTER EFFECT

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER. TRITIATED WATER INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR TRITIATED WATER VAPOR SKIN

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN RESPIRATORY TRACT BODY FLUIDS TRITIATED WATER VAPOR

BODY

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF INTERNAL EMITTERS. BODY MAN PLUTONIUM SR-90 CS-137 ZN-65 GA-72 P-32

BODY BURDEN

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06226 MONITORING FOR TRITIUM AT LOW LEVELS. ABSORPTION BETA RADIATION RADIATION URINE INSTRUMENTS BODY BURDEN MAN MONITORING TRITIATED WATER

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT

NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS PLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06264 ESTIMATION OF WHOLE BODY DOSE (REM) FROM TRITIUM IN BODY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE BODY BURDEN URINE BODY WATER DOSE ESTIMATION

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. BODY BURDEN SAFETY RADIATION EXPOSURE DOSE RATES WASHOUT TRITIATED WATER KR-85

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06463 TRITIUM IN SURFACE WATERS OF THE UNITED STATES, 1966. SURFACE WATERS ANALYSIS BODY BURDEN MEDICINE MEASUREMENT SAMPLING

06492 THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS. MAXIMUM PERMISSIBLE CONCENTRATION CHEMICAL COMPOUNDS HAZARDS URINE MAN INHALATION TRITIATED WATER VAPOR TRITIATED WATER TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS BODY BURDEN

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06634 ACTIVITIES OF THE BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER NUCLEAR LABORATORIES. RADIOCHEMICAL ANALYSIS ANALYSIS BODY BURDEN CHEMICAL ANALYSIS EQUIPMENT URINE ANALYSIS

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. TRITIATED POLYMERS LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION CONTAMINATION CONCENTRATION GRAM-LAMBERT MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

06781 MEASUREMENT OF TRITIUM CONCENTRATION IN EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY BURDENS. URINE SAMPLING BREATH SAMPLING BODY BURDEN EXHALED WATER VAPOR DOSE ESTIMATION CONCENTRATION

06862 EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE (K EKSPERIMENTALNOMU OBOSNOVANIYU PREDEL NO DOPUSTIMOJ KONTSENTRATSII OKISI TRITIYA). MAXIMUM PERMISSIBLE CONCENTRATION TISSUES BODY BURDEN RATS TRITIUM OXIDE RELATIVE BIOLOGICAL EFFECTIVENESS

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968. BODY BURDEN BODY WATER DOSE EQUIVALENTS CHILDREN URINE CONCENTRATION SAMPLING NETWORKS DIETS UNITED STATES

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

BODY FLUIDS

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD ELIMINATION TRITIATED WATER RADIATION DOSE DOSE RATES MAN

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPDOMYS DESERTI WITH TRITIATED WATER. BODY WATER BODY FLUIDS KANGAROO RATS RODENTS MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION XEROPHIL METABOLISM

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER I GROSS STUDIES ON METABOLISM MICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE PLOWERING PLANTS PLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP

DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND GLYCINE BETWEEN MATERIAL AND FOETAL BODY FLUIDS IN RABBITS AND PIGS. C-14 UREA GLYCINE PERITONEUM PIGS RABBITS ALLANTOIC SAC TRITIATED WATER TRANSFER BODY FLUIDS TRITIATED WATER

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN RESPIRATORY TRACT BODY FLUIDS TRITIATED WATER VAPOR

06836 THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS. TRITIATED WATER PATS SKIN BODY FLUIDS RETENTION SPECIFIC ACTIVITIES TISSUES BIOLOGICAL HALF-LIFE

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

BODY WATER

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD ELIMINATION TRITIATED WATER RADIATION DOSE DOSE RATES MAN

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPDOMYS DESERTI WITH TRITIATED WATER. BODY WATER BODY FLUIDS KANGAROO RATS RODENTS MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION XEROPHIL METABOLISM

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER I GROSS STUDIES ON METABOLISM MICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06239 RESIDUAL TRITIUM AT SEDAN CRATER.
PRECIPITATION (METEOROLOGICAL) TRANSPIRATION
RADIATION EXPOSURE BODY WATER PLANTS
BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS
MAMMALS RODENTS SOILS THROWOUT
NUCLEAR EXPLOSIONS SEDAN RATS RODENTS
NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS
PLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER
BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE
MICE RATS RABBITS RODENTS DOGS MAN HORSES
DOMESTIC ANIMALS LIVESTOCK RETENTION
BODY FLUIDS BODY WATER METABOLISM MAMMALS
TRITIATED WATER KANGAROO RATS

06251 AGE-DEPENDENT MODELS FOR ESTIMATING
INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF
PLOWSHARE EVENTS PLOWSHARE RESEARCH AND
DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL
1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION
BIOLOGICAL HALF-LIFE MODELS INHALATION
INGESTION 1-131 AGE WEIGHT BODY WATER
BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM
COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH
EXREM INREM AGE-DEPENDENT MODELS

06263 BIOLOGICAL HALF-LIFE OF TRITIUM.
BIOLOGICAL HALF-LIFE HALF-LIFE MAN BODY WATER

06264 ESTIMATION OF WHOLE BODY DOSE (REM) FROM
TRITIUM IN BODY WATER. WHOLE BODY EXPOSURE
RADIATION EXPOSURE BODY BURDEN URINE BODY WATER
DOSE ESTIMATION

06275 BODY WATER TURNOVER IN CATTLE WITH
PARASITIC GASTROENTERITIS.
PARASITIC DISEASES (WORMS) BODY WATER
BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS
DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS
BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL
USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE
HALF-LIFE INHALATION AGE BODY FLUIDS MODELS
BODY WATER EXTERNAL DOSE INTERNAL DOSE
DOSE EQUIVALENTS RADIATION EXPOSURE
DOSE ESTIMATION MAN PLOWSHARE PROGRAM
TRITIATED WATER

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN
BIOLOGICAL SYSTEMS. FRACTIONATION DEUTERIUM
BIOLOGICAL SYSTEMS RATS MAMMALS RODENTS
T/D RATIO BODY WATER

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC
COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE
MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS
BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION
SPECIFIC ACTIVITIES RADIATION EXPOSURE
TRITIATED WATER

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY
CATTLE USING TRITIATED WATER. BODY WATER
BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS
LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS
FOODS TRITIATED WATER

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT
AND SHEEP. BODY FLUIDS BODY WATER LIPIDS
ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS
ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE
OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS
SHEEP RODENTS MAMMALS RATS RETENTION

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION
OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM
OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION
TISSUES RATS ORGANS RETENTION MAMMALS RODENTS
BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP
DOMESTIC ANIMALS LIVESTOCK DOSE RATES
WHOLE BODY EXPOSURE

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN
THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES
BODY WATER SNAILS GASTROPODS AQUATIC LIFE
MOLLUSKS ABSORPTION FISH RETENTION
TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

06605 SKIN CONTACT TRANSFER OF TRITIUM FROM
BRASS. SKIN TRANSFER BRASS ABSORPTION
BODY WATER URINE ANALYSIS

06631 ASSESSMENT OF TRITIUM IN MAN.
SAVANNAH RIVER PLANT ABSORPTION
CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS
MODELS URINE ANALYSIS BODY WATER MAN

06632 SOME FACTORS INFLUENCING INTERPRETATION OF
STUDIES OF BODY WATER AND ELECTROLYTES WITH
ISOTOPIC TRACERS. TRACERS RADIOACTIVE TRACERS
BODY WATER BIOLOGICAL EFFECTIVENESS DEUTERIUM
CHLORIDES

06789 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC
ORGANISMS FINAL REPORT JUNE 1, 1962 THROUGH JULY
31, 1964. TRITIUM OXIDE TOXIC EFFECTS
TRITIATED WATER BODY WATER RADIATION EFFECTS
AQUATIC LIFE

06860 ESTIMATION OF WATER CONTENT BY TRITIUM
DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT
CHANGES. TRITIATED WATER RABBITS RATS
TOTAL BODY WATER RADIATION SPECIFIC ACTIVITIES
BODY WATER

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY
THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS
WATER EXCHANGE BARRIERS WATER BALANCE LUNGS
SKIN BODY WATER GASTROINTESTINAL TRACT
PHYSICAL PROPERTIES

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968.
BODY BURDEN BODY WATER DOSE EQUIVALENTS
CHILDREN URINE CONCENTRATION SAMPLING NETWORKS
STATES UNITED STATES

06995 DETERMINATION OF TOTAL BODY WATER IN
HEALTHY FILIPINO SUBJECTS WITH THE USE OF
TRITIATED WATER. BODY WATER TRITIATED WATER
MAN PHILIPPINES

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED
WATER VAPOR. TRITIATED WATER URINE ANALYSIS
URINE SAMPLING BLOOD TRANSFER BODY FLUIDS
BODY WATER MAN SPECIFIC ACTIVITIES
EXHALED WATER VAPOR TRACERS

07023 VERWENDUNG VON TRIIERTEM WASSER (THO) ZUR
PORTLAUFENDEN REGISTRIERUNG DES
TRANSPIRATIONSVORLAUFES BEI INSEKTEN. (USE OF
TRITIATED WATER FOR CONTINUOUS REGISTRATION OF
INSECT TRANSPIRATION.) TRITIATED WATER INSECTS
TRANSPIRATION BODY WATER RADIOBIOLOGY

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS
LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES
ALIMENTÉES AVEC DE L'EAU CONTAMINÉE. (TRANSFER
AND DISTRIBUTION OF TRITIUM AMONG THE MAIN
COMPONENTS OF MILK PRODUCED BY COWS HAVING
INGESTED CONTAMINATED WATER.) TRITIATED WATER
TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS
DOMESTIC ANIMALS LIVESTOCK BODY WATER
SPECIFIC ACTIVITIES PHYSIOLOGY

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO
RATS LIVING IN A TRITIATED ENVIRONMENT.
KANGAROO RATS RATS RODENTS MAMMALS
RADIATION EXPOSURE BODY WATER TISSUES
SPECIFIC ACTIVITIES RADIATION DOSE
NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM
CONCENTRATION BIOLOGY DNA HABITATS

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM
IN RATS AFTER TRITIUM OXIDE INGESTION.
RADIATION DOSE TRITIUM OXIDE RATS RODENTS
MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS
MODELS TISSUES BODY WATER BONE MARROW BRAIN
LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM
METHOD OF MEASURING TOTAL BODY WATER. BODY WATER
RADIOLOGICAL HAZARDS TRITIATED WATER
RADIOBIOLOGY RADIATION EXPOSURE
WHOLE BODY EXPOSURE

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF
MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM.
MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER
TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION
TISSUES BODY WATER MAN RADIATION EXPOSURE

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING
A BEARING ON THE PROBLEM OF TRITIUM OXIDE
METABOLISM. DEUTERIUM TRITIUM OXIDE
DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES
BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS
DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

07180 ASSESSMENT OF TRITIUM IN MAN. MAN
RADIATION EXPOSURE OCCUPATIONAL EXPOSURE
ASSIMILATION INHALATION URINE ANALYSIS
ELIMINATION BIOLOGICAL HALF-LIFE
MATHEMATICAL MODELS MATHEMATICAL ANALYSIS
METABOLISM HALF-LIFE CONCENTRATION BODY WATER
RADIATION DOSE MODELS

BODY WEIGHT

06669 PAPERS PRESENTED AT THE EIGHTH ANNUAL
MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY;
18-19 OCTOBER 1962. BIOLOGICAL HALF-LIFE
TRITIATED WATER MAN BODY WEIGHT AGE
TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE
BIOASSAY

BONE

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1988. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BB-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS. AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT THYROID GLAND BONE WHOLE BODY EXPOSURE NUCLEAR REACTORS

BONE MARROW

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE FECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

BORES

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. GROUND WATER CHLORIDES CONCENTRATION CIRCULATION DILUTION NEW ZEALAND MIXING TRITIATED WATER BORES GEOTHERMAL WATERS

BRAIN

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06858 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). METABOLISM TRITIATED WATER MICE LIVER ORGANIC CELL SUBSTANCES BRAIN TISSUES IRRADIATION

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH

TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

BRASS

06605 SKIN CONTACT TRANSFER OF TRITIUM FROM BRASS. SKIN TRANSFER BRASS ABSORPTION BODY WATER URINE ANALYSIS

06636 HEALTH PHYSICS AND MEDICAL DIVISION, PROGRESS REPORT, JANUARY-DECEMBER, 1967. BRASS SKIN ADSORPTION TRANSFER

BREATH SAMPLING

06781 MEASUREMENT OF TRITIUM CONCENTRATION IN EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY BURDENS. URINE SAMPLING BREATH SAMPLING BODY BURDEN EXHALED WATER VAPOR DOSE ESTIMATION CONCENTRATION

BREMSSTRAHLUNG

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

BROOKHAVEN NATIONAL LABORATORY

07058 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION I-131 VEGETATION

BR-82

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

B-10

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR. LI-7 NUCLEAR REACTORS COOLANT ADDITIVES B-10 SAN ONOPRE REACTOR SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR COMPUTER PROGRAMS

CACTACEAE

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

CALCIUM

04147 RADIOACTIVITY AND HUMAN DIET.
RADIOACTIVITY MAN RADIATION EXPOSURE
CONTAMINATION MILK FOOD-CHAINS FALLOUT
VEGETATION ABSORPTION SOILS ANIMALS METABOLISM
PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH
FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM
ENVIRONMENTS FOODS CALCIUM

CALIFORNIA

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT
OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN
FRESNO COUNTY, CALIFORNIA. WELLS AQUIPERS
IRRIGATION GROUND WATER CALIFORNIA VELOCITY
NUCLEAR TESTING MOVEMENT

CANADA

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS
DIVISION, APRIL 1 TO JUNE 30, 1969.
PRECIPITATION (METEOROLOGICAL) RIVERS GASES
INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR
CANADA TRITIATED WATER

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS
DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN
GREENLAND CANADA ALASKA RIVERS INSTRUMENTS
PRECIPITATION (METEOROLOGICAL)
ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK
RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS
CANADA PERCH LAKE RADIOACTIVE WASTES WASTES
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES
GROUND WATER TRITIATED WATER

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY.
HYDROLOGY CANADA DEPOSITION RAINFALL
PRECIPITATION (METEOROLOGICAL) GROUND WATER
HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS
EVAPORATION FRACTIONATION STORAGE RETENTION

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968,
BIOLOGY AND HEALTH PHYSICS DIVISION.
ATMOSPHERE (TERRESTRIAL) CANADA RIVERS
GROWTH RINGS SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS DEPOSITION STRATOSPHERE
TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE.
PERCH LAKE CANADA LAKES TRITIATED WATER
RADIOACTIVE WASTE DISPOSAL CONCENTRATION MIXING
DISPERSION

06635 BIOLOGY AND HEALTH PHYSICS DIVISION,
PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968.
PRECIPITATION (METEOROLOGICAL) RIVERS SKIN
ABSORPTION WATER VAPOR GASES
ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS
EQUIPMENT CANADA ALASKA GREENLAND
TRITIATED WATER

06964 THE DETERMINATION OF TRITIUM IN NATURAL
WATERS. RAINWATER SEA WATER SNOW
PRECIPITATION (METEOROLOGICAL) CONCENTRATION
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
CANADA WASHOUT

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU
TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952.
(ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER
MIDDLE LATITUDES SINCE 1952.) FALLOUT CANADA
EUROPE ATMOSPHERIC NUCLEAR TESTING
NUCLEAR TESTING RAINFALL
PRECIPITATION (METEOROLOGICAL) CONCENTRATION

07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM
AECI REACTOR STACK. SNOW
PRECIPITATION (METEOROLOGICAL) TRITIUM OXIDE
CANADA SPECIFIC ACTIVITIES
DILUTION RATE FACTORS NUCLEAR REACTORS

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN
CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA
SURFACE WATERS PRECIPITATION (METEOROLOGICAL)
HYDROLOGICAL CYCLING CONCENTRATION
SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS
ALASKA GREENLAND

CANALS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES; PHASE III.
PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION
EXTERNAL DOSE INTERNAL DOSE INREM EXREM

RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS
ORGANS SKIN INGESTION NUCLEAR EXCAVATION
SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI)
SR-89 MAN 1-131 ROUTE 17 (ATRATO-TRUANDO)
COMPUTER MODELS

CANCER

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION
DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH
TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE.
TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES
BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER
MAN KIDNEY TESTES LIVER BRAIN MUSCLE
BONE MARROW HALF-LIFE ORGANS

CANE

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH
31, 1968. FLOWSHARE PROGRAM RU-106 SB-125
CS-137 RADIATION TRITIATED WATER CANE
GREEN RIVER RIVERS GAMMA RADIATION
CONTAMINATION OIL SHALE

06899 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JULY 1 TO SEPTEMBER
30, 1968. TRITIATED WATER SHALE DISTRIBUTION
THERMAL ANALYSIS CANE FLOWSHARE PROGRAM
CONTAMINATION OIL SHALE

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER
30, 1969. FLOWSHARE PROGRAM TRITIATED WATER
SHALE DISTRIBUTION CANE THERMAL ANALYSIS
NATURAL GAS HYDROGEN CONTAMINATION

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING
MAY 31, 1968. TRITIATED WATER FLOWSHARE PROGRAM
CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS
OIL LEACHING CONCENTRATION OIL SHALE

07055 ANNUAL PROGRESS REPORT FOR PERIOD ENDING
MAY 31, 1969. CANE FLOWSHARE PROGRAM OIL SHALE
CONTAMINATION RETORTED OIL

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER
31, 1969. CANE SHALE SEDIMENTARY ROCK ROCK
CONTAMINATION TRITIATED METHANE TRITIATED ETHANE
FLOWSHARE PROGRAM

07084 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH
31, 1969. CONTAMINATION SHALE ROCK
SEDIMENTARY ROCK CANE FLOWSHARE PROGRAM

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER
31, 1968. SHALE CANE RETENTION PENETRATION
EXTRACTION FLOWSHARE PROGRAM SEDIMENTARY ROCK
ROCK CONTAMINATION

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER
30, 1970. CANE TRITIATED HYDROGEN
TRITIATED METHANE SHALE CONTAMINATION
TRITIATED WATER NATURAL GAS FLOWSHARE PROGRAM
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

CARBOHYDRATES

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS
IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED
WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES
PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES
SUGARS TRITIATED WATER

06404 INCORPORATION OF TRITIUM FROM TRITIATED
WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC
ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY
CARBOHYDRATES LIPIDS NUCLEIC ACIDS
TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS
PROTEINS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN
PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER
(HTO) IN STUDIES ON METABOLISM). METABOLISM
TAGGING BLOOD PROTEINS PATTY ACIDS
NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS
GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL
TRITIATED WATER RABBITS RODENTS

06441 PATTY ACID SYNTHESIS IN ADIPOSE TISSUE
INCUBATED IN TRITIATED WATER. PATTY ACIDS
ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE
CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER
BIOCHEMISTRY

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

CARBON

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

CARBON DIOXIDE

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM. C-14 CARBON DIOXIDE NUCLEAR TESTING STRATOSPHERE PANAMA CANAL ZONE RADIOBIOLOGY

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06607 A CARBON DIOXIDE COLLECTION ACCESSORY FOR THE RAPID COMBUSTION APPARATUS FOR PREPARATION OF BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION ANALYSIS INSTRUMENTS CARBON DIOXIDE LIQUID SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS TRITIATED WATER

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18 WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

CARBON MONOXIDE

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

CARCINOGENIC EFFECTS

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE. C-14 DNA MICE TUMORS CARCINOGENIC EFFECTS RETENTION TRITIATED THYMIDINE RADIATION EFFECTS

CARLSBAD ROLL-UP PROGRAM

07073 CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE RADIOLOGICAL SAFETY REPORT. CARLSBAD ROLL-UP PROGRAM FLOWSHARE PROGRAM CONTAMINATION SOIL CONTAMINATION DECONTAMINATION NEW MEXICO RADIOACTIVE WASTES

CASTLE TESTS

06844 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN AND METHANE. ATMOSPHERIC HYDROGEN

ATMOSPHERIC METHANE SURFACE WATERS CASTLE TESTS

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

CATS

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

CAVITY GAS

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. KR-85 TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE TRITIATED WATER CAVITY GAS PROJECT GASBUGGY FLOWSHARE PROGRAM

CA-40

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCEIN I-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

CA-45

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCEIN I-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

CD-113

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-108 CS-137 PE-85 SR-80 SB-125 BU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

CELL DIVISION

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

CELL GROWTH

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

CELL NUCLEUS

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELLED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DNA DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. DNA TRITIATED THYMIDINE GENETIC EFFECTS BIOLOGICAL EFFECTS MUTATIONS RELATIVE BIOLOGICAL EFFECTIVENESS CELLS CELL NUCLEUS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS
MAMMALS TRITIATED THYMIDINE LABELING
CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES
GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES
ERYTHROCYTES LEUCOCYTES ORGANS
RADIATION EFFECTS TRITIATED COMPOUNDS

CELLS

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS
ADENINE THYMINE DNA C-14 RADIOSENSITIVITY
DOGS MAMMALS CELLS TRITIATED COMPOUNDS

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE
NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION
CELLS DNA CHROMOSOMES TRITIATED WATER
BETA RADIATION MUTATIONS TRITIATED THYMIDINE
RADIATION EFFECTS HAMSTERS RODENTS

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS
CHEMICAL REACTIONS RADIATION EFFECTS CELLS
HYDROLOGY PHYSICS CHEMISTRY TRACERS
AUTORADIOGRAPHY BIOLOGICAL SYSTEMS
TRITIATED COMPOUNDS

06603 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. THYMIDINE NUCLEIC ACIDS
ORGANIC COMPOUNDS CELLS MAMMALS
RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE
DNA RADIATION EFFECTS MORTALITY

06637 EFFECTS OF INTRACELLULAR IRRADIATION WITH TRITIUM. CELLS RADIATION EFFECTS NUCLEIC ACIDS
ORGANIC COMPOUNDS MUTATIONS TOXICITY DNA

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE
RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA
DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

06838 A METHOD OF STUDYING METABOLIC REACTIONS DURING BETA-IRRADIATION. CELLS CHLORELLA
METABOLISM BETA RADIATION TRITIATED WATER

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60
RADIUM BETA RADIATION GAMMA RADIATION
IRRADIATION RADIATION DOSE RATES
RELATIVE BIOLOGICAL EFFECTIVENESS CELLS
TRITIATED WATER

06865 ON THE DIFFERENCE BETWEEN THE LETHAL EFFECTS OF H-3 AND P-32 IN BACTERIA. MORTALITY
P-32 BACTERIA MICROORGANISMS DNA CELLS
RADIATION EFFECTS MATHEMATICAL MODELS

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE
TRITIATED WATER MAMMALIAN CELLS CELLS
CULTURE MEDIUM DOSE RATES RADIATION
RADIATION EFFECTS GROWTH RATE

06954 BEISPIELE FUER DEN INTRAZELLULAREN TRITIUM-STOFFWECHSEL (EXAMPLES FOR THE INTRACELLULAR TRITIUM METABOLISM).
INTRANUCLEAR LABELING CELLS AMINO ACIDS LIPIDS
NUCLEIC ACIDS METABOLISM

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION
CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES
CELL DIVISION MITOSIS RADIATION EFFECTS
GENETIC EFFECTS DOSE RATES TRITIUM OXIDE
RADIATION DOSE

07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS.
DNA TRITIATED THYMIDINE GENETIC EFFECTS
BIOLOGICAL EFFECTS MUTATIONS
RELATIVE BIOLOGICAL EFFECTIVENESS CELLS
CELL NUCLEUS

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE
TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS
MAMMALS RADIATION EFFECTS GENETIC EFFECTS
LETHALITY RADIOACTIVE DECAY RADIATION DOSE
DNA SYNTHESIS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS

MAMMALS TRITIATED THYMIDINE LABELING
CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES
GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES
ERYTHROCYTES LEUCOCYTES ORGANS
RADIATION EFFECTS TRITIATED COMPOUNDS

CELLULAR METABOLISM

07124 PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE.
GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY
TRACERS CELLULAR METABOLISM TOXICITY
GENETIC EFFECTS RADIATION EFFECTS

CELLULAR PERMEABILITY

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE.
TRITIATED WATER BETA RADIATION CYSTAMINE
GERMINATION TIME CELLULAR PERMEABILITY
RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA
PHYSIOLOGY METABOLISM

CELLULOSE

06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF CYCLIC DRYING. WATER VAPOR GASES CELLULOSE
CHEMICAL REACTIONS EXCHANGE REACTIONS
CHEMICAL ANALYSIS ANALYSIS

CENTRAL AMERICA

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES
AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS
PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL
COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA
SOIL DENSITY NUCLEAR EXCAVATION

CESIUM

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM
PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM
SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM
EXCRETION DOSE ESTIMATION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM
URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM
BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION
URINE EXCRETION

CE-141

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT.
JULY-DECEMBER 1966. SAVANNAH RIVER PLANT
ENVIRONMENTAL RADIATION VEGETATION FRESH WATER
RADIATION ALGAE FISH MONITORING
GAMMA RADIATION FALLOUT NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103
RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140
ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65
MN-54 MAXIMUM PERMISSIBLE CONCENTRATION
ATMOSPHERE (TERRESTRIAL)

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES.
SR-90 SR-89 CE-141 CE-144 CS-137 RU-103
RU-106 ZR-CB-95 RADIOACTIVE WASTES
SAVANNAH RIVER PLANT GROUND WATER MIGRATION
SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT,
JULY THROUGH DECEMBER 1969. RADIOACTIVITY
TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL)
WATER VEGETATION FISH MILK GAMMA RADIATION
CS-137 CS-134 CE-141 CE-144 RU-103 RU-106
ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239
MONITORING SAVANNAH RIVER PLANT

CE-144

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT.
JULY-DECEMBER 1966. SAVANNAH RIVER PLANT
ENVIRONMENTAL RADIATION VEGETATION FRESH WATER
RADIATION ALGAE FISH MONITORING
GAMMA RADIATION FALLOUT NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103
RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140
ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65
MN-54 MAXIMUM PERMISSIBLE CONCENTRATION
ATMOSPHERE (TERRESTRIAL)

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN FLOWSHARE PROGRAM NEVADA TEST SITE

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CE-141 CE-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06898 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

CHALK RIVER

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING URINE TRITIATED WATER SAFETY TRITIATED WATER VAPOR CHALK RIVER

CHEMICAL ANALYSIS

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. LONG SHOT CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS ALASKA AMCHITKA ISLAND ALUTIAN ISLANDS WATER SPECTROCHEMICAL ANALYSIS

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PLECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF CYCLIC DRYING. WATER VAPOR GASES CELLULOSE CHEMICAL REACTIONS EXCHANGE REACTIONS CHEMICAL ANALYSIS ANALYSIS

06401 SIMPLIFIED SOLID-STATE SCINTILLATION COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN BIOLOGICAL AND ORGANIC MATERIALS. C-14 CL-36 RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS SCINTILLATION COUNTING TRITIATED COMPOUNDS

06458 LOW-LEVEL COUNTING BY LIQUID SCINTILLATION I TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS

ANALYSIS CHEMICAL ANALYSIS

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06483 DETERMINATION OF TRITIUM IN WATER AND URINE. ELECTROLYSIS SCINTILLATION COUNTING CHEMICAL ANALYSIS ANALYSIS URINE WATER URINE ANALYSIS

06486 TRITIUM AND ITS COMPOUNDS. CHEMICAL REACTIONS CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS SAFETY RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS ANALYSIS PHYSICAL PROPERTIES

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

06490 TRITIUM-LABELED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS URINE ANALYSIS SAVANNAH RIVER PLANT

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. SCINTILLATION COUNTING EQUIPMENT ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS CHEMISTRY BIOASSAY

06607 A CARBON DIOXIDE COLLECTION ACCESSORY FOR THE RAPID COMBUSTION APPARATUS FOR PREPARATION OF BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION ANALYSIS INSTRUMENTS CARBON DIOXIDE LIQUID SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS TRITIATED WATER

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING CHEMICAL REACTIONS ANALYSIS RADIOCHEMICAL ANALYSIS BIOCHEMISTRY CHEMICAL ANALYSIS ISOTOPE EXCHANGE TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY HAZARDS CHEMICAL SYNTHESIS

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS ANALYSIS ETHANE CHEMICAL ANALYSIS ORGANIC COMPOUNDS ETHYLENE CONCENTRATION GERMANY

06631 ASSESSMENT OF TRITIUM IN MAN. SAVANNAH RIVER PLANT ABSORPTION CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS MODELS URINE ANALYSIS BODY WATER MAN

06634 ACTIVITIES OF THE BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER NUCLEAR LABORATORIES. RADIOCHEMICAL ANALYSIS ANALYSIS BODY BURDEN CHEMICAL ANALYSIS EQUIPMENT URINE ANALYSIS

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY - GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. NATURAL GAS CONTAMINATION FLOWSHARE PROGRAM KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS FLUSHING DILUTION PROJECT GASBUGGY

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

CHEMICAL COMPOSITION

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS
PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION
POTASSIUM CARBON CLAYS SILICATES WEATHERING
RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON
METALS PLANTS LEACHING NONMETALS

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS
RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS
NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85
EXPLOSIONS METHANE ETHANE HYDROGEN
CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN
TRITIATED WATER

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS
SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS
RAINFALL PRECIPITATION (METEOROLOGICAL)
AIRBORNE CONTAMINATION CHEMICAL COMPOSITION
RADIOACTIVITY

CHEMICAL COMPOUNDS

06486 TRITIUM AND ITS COMPOUNDS.
CHEMICAL REACTIONS CHEMICAL ANALYSIS
RADIOCHEMICAL ANALYSIS SAFETY
RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS
ANALYSIS PHYSICAL PROPERTIES

06492 THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS.
MAXIMUM PERMISSIBLE CONCENTRATION
CHEMICAL COMPOUNDS HAZARDS URINE MAN
INHALATION TRITIATED WATER VAPOR TRITIATED WATER
TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS
BODY BURDEN

CHEMICAL EFFECTS

06196 PATE OF RADIOACTIVE CONTAMINANTS IN WATER, PROGRESS REPORT NO 2, FOR THE PERIOD MAY 1, 1958 TO JUNE 30, 1959. CHEMICAL EFFECTS
BIOLOGICAL EFFECTS ESTUARINE ENVIRONMENTS
MARINE ENVIRONMENT SEA WATER

CHEMICAL PROPERTIES

06957 THE CHEMICAL AND BIOLOGICAL ASPECTS OF TRITIUM; A BIBLIOGRAPHY OF REPORT AND PUBLISHED LITERATURE REFERENCES FROM 1950 TO DATE.
BIOLOGICAL PROPERTIES CHEMICAL PROPERTIES
BIBLIOGRAPHY

CHEMICAL REACTIONS

06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF CYCLIC DRYING. WATER VAPOR GASES CELLULOSE
CHEMICAL REACTIONS EXCHANGE REACTIONS
CHEMICAL ANALYSIS ANALYSIS

06375 SYNTHESSES WITH TRITIUM.
CHEMICAL REACTIONS CHEMICAL SYNTHESIS

06420 ON THE MECHANISM OF THE SELF-INDUCED EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC HYDROCARBONS. TAGGING CHEMICAL REACTIONS
EXCHANGE REACTIONS ORGANIC COMPOUNDS
HYDROCARBONS TRITIATED COMPOUNDS

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL SUSPENSIONS. CHEMICAL REACTIONS ENZYMES
BACTERIA PLANTS MICROORGANISMS
BIOLOGICAL FIXATION HYDROGENATION

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE. ENZYMES CHEMICAL REACTIONS TAGGING
TRITIATED WATER MUSCLE TISSUES RABBITS RODENTS

06437 THE MECHANISM OF THE TRIOSEPHOSPHATE ISOMERASE REACTION. CHEMICAL REACTIONS WATER
ENZYMES TAGGING TRITIATED WATER ISOMERIZATION
MUSCLE

06486 TRITIUM AND ITS COMPOUNDS.
CHEMICAL REACTIONS CHEMICAL ANALYSIS
RADIOCHEMICAL ANALYSIS SAFETY
RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS
ANALYSIS PHYSICAL PROPERTIES

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS
CHEMICAL REACTIONS RADIATION EFFECTS CELLS
HYDROLOGY PHYSICS CHEMISTRY TRACERS
AUTORADIOGRAPHY BIOLOGICAL SYSTEMS
TRITIATED COMPOUNDS

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING
CHEMICAL REACTIONS ANALYSIS
RADIOCHEMICAL ANALYSIS BIOCHEMISTRY
CHEMICAL ANALYSIS ISOTOPE EXCHANGE
TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY
HAZARDS CHEMICAL SYNTHESIS

CHEMICAL SYNTHESIS

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS
ADENINE THYMINE DNA C-14 RADIOSENSITIVITY
DOGS MAMMALS CELLS TRITIATED COMPOUNDS

06375 SYNTHESSES WITH TRITIUM.
CHEMICAL REACTIONS CHEMICAL SYNTHESIS

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING
CHEMICAL REACTIONS ANALYSIS
RADIOCHEMICAL ANALYSIS BIOCHEMISTRY
CHEMICAL ANALYSIS ISOTOPE EXCHANGE
TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY
HAZARDS CHEMICAL SYNTHESIS

CHEMICAL WASTES

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION
Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT
NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING
LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS
BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON
CHEMICAL WASTES RADIOACTIVE WASTES

CHEMISTRY

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS
CHEMICAL REACTIONS RADIATION EFFECTS CELLS
HYDROLOGY PHYSICS CHEMISTRY TRACERS
AUTORADIOGRAPHY BIOLOGICAL SYSTEMS
TRITIATED COMPOUNDS

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED SAMPLES FOR SCINTILLATION ANALYSIS. SCINTILLATION COUNTING
EQUIPMENT ANALYSIS RADIOCHEMICAL ANALYSIS
CHEMICAL ANALYSIS CHEMISTRY BIOASSAY

CHILDREN

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968. BODY BURDEN BODY WATER DOSE EQUIVALENTS
CHILDREN URINE CONCENTRATION SAMPLING NETWORKS
DIETS UNITED STATES

06980 TRITIUM CONCENTRATIONS IN FOOD, 1967-1968. CONCENTRATION FOODS DOSE EQUIVALENTS CHILDREN
UNITED STATES

CHLORELLA

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY GROWING CHLORELLA PYRENOIDOSA CELLS. METABOLISM
CHLORELLA ALGAE CHLOROPHYTA PLANTS DEUTERIUM
TRACERS

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. OXIDES
CHLORELLA ALGAE CHLOROPHYTA PLANTS
GROWTH TRITIUM OXIDE RADIATION EFFECTS

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES
CHLORELLA ALGAE CHLOROPHYTA PLANTS
C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY
RADIATION EFFECTS

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE.
CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN
GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM
METABOLISM

06838 A METHOD OF STUDYING METABOLIC REACTIONS DURING BETA-IRRADIATION. CELLS CHLORELLA
METABOLISM BETA RADIATION TRITIATED WATER

CHLORIDES

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES
FLUORESCENCE 1-131 CA-40 CA-45 SOILS TRANSPORT
VELOCITY TRITIATED WATER

06610 TRACING GROUNDWATER WITH CHLORIDE IONS AND TRITIUM THROUGH ACID KAOLINITIC SOIL. CHLORIDES INORGANIC COMPOUNDS GROUND WATER TRACERS SOILS KAOLINITE

06632 SOME FACTORS INFLUENCING INTERPRETATION OF STUDIES OF BODY WATER AND ELECTROLYTES WITH ISOTOPIC TRACERS. TRACERS RADIOACTIVE TRACERS BODY WATER BIOLOGICAL EFFECTIVENESS DEUTERIUM CHLORIDES

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. GROUND WATER CHLORIDES CONCENTRATION CIRCULATION DILUTION NEW ZEALAND MIXING TRITIATED WATER BORES GEOTHERMAL WATERS

CHLOROPHYTA

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY GROWING CHLORELLA PYRENOIDOSA CELLS. METABOLISM CHLORELLA ALGAE CHLOROPHYTA PLANTS DEUTERIUM TRACERS

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS GROWTH TRITIUM OXIDE RADIATION EFFECTS

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY RADIATION EFFECTS

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE. CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM METABOLISM

CHOLESTEROL

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS PATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS PATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

CHROMIUM

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL CHROMIUM GROUND WATER SURFACE WATERS AQUIFERS RADIOACTIVE WASTES TRACERS

CHROMOSOMES

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. LABELING TRITIATED THYMIDINE CHROMOSOMES DNA BIOLOGICAL EFFECTS RADIATION EFFECTS RETENTION GENETIC EFFECTS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

CIRCULATION

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES. ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS SURFACE WATERS CIRCULATION MIXING ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

06231 THE ATMOSPHERIC TRANSPORT OF TRITIUM. ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) TRANSPORT EQUATIONS TRITIATED WATER CIRCULATION

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06235 LARGE-SCALE UTILIZATION OF TRITIUM IN HYDROLOGIC STUDIES. TRACERS CIRCULATION MIXING GROUND WATER HYDROLOGICAL CYCLING SURFACE WATERS

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

07082 MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION. LABORATORY METHODS RAINWATER TRACERS METEOROLOGY WATER CIRCULATION ELECTROLYTIC ENRICHMENT MEASUREMENT

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. GROUND WATER CHLORIDES CONCENTRATION CIRCULATION DILUTION NEW ZEALAND MIXING TRITIATED WATER BORES GEOTHERMAL WATERS

CITY WATER

06873 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER, GROUND WATER AND HOT SPRING. CITY WATER GROUND WATER HOT SPRINGS ELECTROLYTIC ENRICHMENT PRECIPITATION (METEOROLOGICAL) RAINFALL

06956 MEASUREMENT OF TRITIUM AT NATURAL LEVELS. CITY WATER RAINWATER WELL WATER NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) CONTAMINATION

CLAYS

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVISON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

06273 DIFFUSION OF TRITIATED WATER IN SOILS. DIFFUSION SOILS TRACERS CLAYS DIFFUSION COEFFICIENT TRITIATED WATER

06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. DIFFUSION MONTMORILLONITE KAOLINITE TRACERS CLAYS SEDIMENTS SOILS DIFFUSION COEFFICIENT TRITIATED WATER

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. CONCENTRATION GROUND WATER MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE CLAYS SOILS PERMEABILITY

CLIMATOLOGY

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

CLINCH RIVER

06465 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1968. SURFACE WATERS CLINCH RIVER RIVERS POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06471 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1969. SAMPLING SURFACE WATERS CLINCH RIVER RIVERS WATER POLLUTION POLLUTION NUCLEAR FUEL PLANTS

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

07106 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

CLOTHING

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING URINE TRITIATED WATER SAFETY TRITIATED WATER VAPOR CHALK RIVER

06626 REMOTE TRITIUM AIR MONITORING SYSTEM. WHOLE BODY EXPOSURE RADIATION EXPOSURE SAVANNAH RIVER PLANT HAZARDS ABSORPTION CLOTHING TRITIUM OXIDE ENVIRONMENTAL MONITORING

CL-36

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

06401 SIMPLIFIED SOLID-STATE SCINTILLATION

COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN BIOLOGICAL AND ORGANIC MATERIALS. C-14 CL-36 RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS SCINTILLATION COUNTING TRITIATED COMPOUNDS

08866 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. TRITIATED WATER ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT CL-36 UPTAKE TRANSPORT

CL-38

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

CL-39

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

CM-244

06426 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

COASTS

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

COEFFICIENT OF DISPERSION

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

COEFFICIENTS

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE CRITICAL POINT OF HYDROGEN, DEUTERIUM, AND TRITIUM, AND THEIR DIATOMIC COMBINATIONS. DEUTERIUM HYDROGEN GASES VAPOR PRESSURE COEFFICIENTS TEMPERATURE CONSTANTS

COLOMBIA

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TB-132 SR-89 RU-106 TB-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06382 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. SEA WATER NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT COLOMBIA GULF OF SAN MIGUEL ISOTOPE EXCHANGE SPECIFIC ACTIVITIES

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA SOIL DENSITY NUCLEAR EXCAVATION

COLORADO

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

COLUMBIA RIVER

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PLECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-65 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-60 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT ENVIRONMENTAL RADIATION RADIATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL COOLING WATER RIVERS RADIATION EXPOSURE COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES WASTES

06461 FISSION PRODUCT TRITIUM IN SEPARATIONS WASTES AND IN THE GROUND WATER. CONTAMINATION GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL COLUMBIA RIVER

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1966. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07123 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. APPENDICES. ENVIRONMENTAL MONITORING HANFORD PROJECT CONCENTRATION COLUMBIA RIVER RIVERS

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. CONCENTRATION COLUMBIA RIVER HANFORD PROJECT P-32 ENVIRONMENTAL MONITORING CR-51 ZN-65 I-131 SR-90

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

COMMUNITY WATER SUPPLIES

06981 TRITIUM IN COMMUNITY WATER SUPPLIES, 1969. CONCENTRATION COMMUNITY WATER SUPPLIES RADIATION DOSE GROUND WATER SURFACE WATERS UNITED STATES SAMPLING

COMPARTMENTS

03618 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

COMPLEX POTENTIAL FUNCTION

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES

THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

COMPOSITAE

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

COMPUTER MODELS

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF FLOWSHARE EVENTS FLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE FLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1966. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

COMPUTER PROGRAM

03618 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

COMPUTER PROGRAMS

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR. LI-7 NUCLEAR REACTORS COOLANT ADDITIVES B-10 SAN ONOPRE REACTOR SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR COMPUTER PROGRAMS

CONCENTRATION

CONCENTRATION SR-90 I-131 NEW YORK

04086 TRITIUM IN SURFACE WATERS, 1964-1965. SURFACE WATERS CONCENTRATION UNITED STATES SAMPLING

04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE SEDIMENTS AND MARINE ORGANISMS. SEA WATER SEDIMENTS MARINE BIOLOGY HALF-LIFE DISTRIBUTION CONCENTRATION RADIOACTIVITY ENVIRONMENTS

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-33 S-35 S-36 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

06211 NATURAL TRITIUM IN GROUNDWATER STUDIES.
GROUND WATER HYDROLOGY ICELAND RAINOUT FALLOUT
CONCENTRATION

06212 TRITIUM HYDROLOGY IN NEW ZEALAND.
HYDROLOGY NEW ZEALAND RAINWATER CONCENTRATION
SURFACE WATERS GROUND WATER MOVEMENT TRACERS

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES
EFFECTUES AU CENTRE D'ETUDES NUCLEAIRES DE
GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS
AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE
NUCLEAR RESEARCH CENTRE). HYDROLOGY SAMPLING
FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL)
KARST CONCENTRATION TRACERS HYDROGEOLOGY

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT
OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA.
SEASONAL VARIATIONS PERIODIC VARIATIONS
PRECIPITATION (METEOROLOGICAL) GROUND WATER
AUSTRIA KARST MIXING MODELS SURFACE WATERS
CONCENTRATION

06218 TRITIUM CONTENT AS AN INDICATOR OF AGE AND
MOVEMENT OF GROUND WATER IN THE ROSWELL BASIN, NEW
MEXICO. MOVEMENT AGE TRACERS NEW MEXICO
CONCENTRATION GROUND WATER

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON
HILDA 1964 AND BETSY 1965. DESTRUCTIVE FACTORS
WATER VAPOR SEA WATER SALT WATER STORMS
HURRICANES GASES CONCENTRATION

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT
THE NATIONAL REACTOR TESTING STATION, IDAHO.
TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER
FLOW RATES WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL IDAHO
NATIONAL REACTOR TESTING STATION CONCENTRATION
TRANSPORT BASALT IGNEOUS ROCK ROCK

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM
AND THEIR EFFECTS IN THE ATMOSPHERE.
ATMOSPHERE (TERRESTRIAL)
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
PRECIPITATION (METEOROLOGICAL) STRATOSPHERE
OCEANS SURFACE WATERS RAINWATER TRANSPORT
DEPOSITION MODELS CONCENTRATION RAINFALL

06267 AQUIFER STORAGE DETERMINATION BY
RADIOTRACER TECHNIQUES. TRACERS WATER STORAGE
AQUIFERS MODELS MATHEMATICAL MODELS
GROUND WATER CONCENTRATION

06267 THE CURRENT TRITIUM CONTENTS OF NATURAL
WATERS. PLANTS SOVIET UNION WATER VAPOR GASES
PRECIPITATION (METEOROLOGICAL) LAKES RIVERS
GROUND WATER CONCENTRATION

06399 GROUND WATER CONTAMINATION PREDICTIONS.
CONTAMINATION SAFETY NUCLEAR EXPLOSIONS
EXPLOSIONS FISSION PRODUCTS
RADIOACTIVE WASTE DISPOSAL GROUND WATER
CONCENTRATION

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS.
C-14 TREES PLANTS RAINWATER TROPOSPHERE
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
GROWTH RINGS CONCENTRATION

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE.
PERCH LAKE CANADA LAKES TRITIATED WATER
RADIOACTIVE WASTE DISPOSAL CONCENTRATION MIXING
DISPERSION

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM
AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS
DEUTERIUM NONMETALS RETENTION RATS MAMMALS
RODENTS OXIDES TRITIUM OXIDE TISSUES
CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE
METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER II GROSS STUDIES ON THE RAT.
RADIOACTIVE TRACERS TRACERS RATS MAMMALS
RODENTS OXIDES TISSUES BODY FLUIDS
CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM
RETENTION

06460 NATURAL CONCENTRATION OF KRYPTON-85,
CARBON-14, AND TRITIUM IN RECENT YEARS. C-14
KR-85 MAXIMUM PERMISSIBLE CONCENTRATION
ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES
PLANTS RAINWATER CONCENTRATION

06470 CARBON-14, TRITIUM, AND PLUTONIUM-239 IN
MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968.
C-14 PU-239 MILK DAIRY PRODUCTS FOODS DIETS
CONCENTRATION

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL
COMPOSITION OF NATURAL GAS FROM THE CAVITY
PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT.
CHEMICAL COMPOSITION CHEMICAL ANALYSIS
RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS
NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85
EXPLOSIONS METHANE ETHANE HYDROGEN
CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN
TRITIATED WATER

06475 TRITIUM IN NEW YORK STATE WATERS, 1965.
NEW YORK RIVERS LAKES SAMPLING CONCENTRATION
GROUND WATER

06476 TRITIUM IN SURFACE WATER NETWORK,
JULY-DECEMBER 1968. SURFACE WATERS
SAVANNAH RIVER RIVERS SAMPLING CONCENTRATION
NUCLEAR FUEL PLANTS

06612 RADIOLOGICAL STATUS OF THE GROUND WATER
BENEATH THE HANFORD PROJECT, JULY-DECEMBER 1968.
RU-108 GROUND WATER CONTAMINATION
HANFORD PROJECT AQUIFERS CONCENTRATION

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE
NATIONAL REACTOR TESTING STATION.
NATIONAL REACTOR TESTING STATION GROUND WATER
HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION
SURFACE WATERS RAINFALL TRITIATED WATER
NUCLEAR FUEL PLANTS
PRECIPITATION (METEOROLOGICAL) RAINOUT
CONCENTRATION RADIOACTIVE WASTES

06623 TRITIUM CONCENTRATION OF GERMAN RIVER
WATERS MEASURED WITH THE PROPORTIONAL-COUNTING
TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS
ANALYSIS ETHANE CHEMICAL ANALYSIS
ORGANIC COMPOUNDS ETHYLENE CONCENTRATION
GERMANY

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS
DIAL PAINTING. TRITIATED POLYMERS
LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION
CONTAMINATION CONCENTRATION GRAM-LAMBERT
MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

06781 MEASUREMENT OF TRITIUM CONCENTRATION IN
EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY
BURDENS. URINE SAMPLING BREATH SAMPLING
BODY BURDEN EXHALED WATER VAPOR DOSE ESTIMATION
CONCENTRATION

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES
IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION
FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS
UPTAKE CONCENTRATION INVERTEBRATES
BIOLOGICAL HALF-LIFE

06788 TRITIUM TRACER IN ARCTIC PROBLEMS.
TRACERS SEA WATER ICE OCEANS ARCTIC OCEAN
MIXING EXCHANGE CONCENTRATION

06793 CHEMICAL EFFLUENTS TECHNOLOGY WASTE
DISPOSAL INVESTIGATIONS, JANUARY-DECEMBER, 1964.
HANFORD PROJECT GROUND WATER MONITORING
ISOCONCENTRATION LINES CONCENTRATION
BETA RADIATION RADIOACTIVE WASTES

06794 FISSION PRODUCT TRITIUM IN FUEL
REPROCESSING WASTES. URANIUM FISSION
RADIOLOGICAL HAZARDS RADIOACTIVE WASTES
TRITIUM OXIDE DECONTAMINATION CONCENTRATION
TRITIUM GAS RADIOACTIVE WASTE DISPOSAL
FISSION PRODUCTS

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT,
JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT
ENVIRONMENTAL RADIATION FOODS VEGETATION
FRESH WATER ALGAE FISH GAMMA RADIATION
CONCENTRATION TRITIUM OXIDE
ATMOSPHERE (TERRESTRIAL) BETA RADIATION
MAXIMUM PERMISSIBLE CONCENTRATION

06809 RADIOACTIVITY IN THE HYDROLOGIC
ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT
REPORT. WATER MOVEMENT RADIOACTIVITY
CONCENTRATION SR-90 PROJECT RULISON HYDROLOGY
FLOWSHARE PROGRAM

06814 RADIOLOGICAL STATUS OF THE GROUND WATER
BENEATH THE HANFORD PROJECT, JANUARY-JUNE, 1969.
RU-108 GROUND WATER HANFORD PROJECT
CONCENTRATION

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND
EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND
CHEMICAL ANALYTICAL RESULTS. KR-85 AR-37 AR-39
OXIDES PROJECT GASBUGGY CONCENTRATION C-14
TRITIATED WATER

06832 ENVIRONMENTAL MONITORING REPORT;
JANUARY-JUNE, 1966. POLONIUM PLUTONIUM
MIAMI RIVER AIR WATER ENVIRONMENTAL MONITORING
CONCENTRATION

06841 MESSUNG DES TRITIUM-JAHRESGANGES IM REGEN
1960-61 NACH ISOTOPENANREICHERUNG IM TRENNROHR
(MEASUREMENT OF THE TRITIUM CONCENTRATION PATTERN
IN RAIN IN 1960-61 BY ISOTOPIC ENRICHMENT IN THE
SEPARATION PERIOD). GERMANY SR-90 RAINWATER
CONCENTRATION

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM
AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE
OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18
WATER VAPOR CARBON DIOXIDE HUMIDITY
STRATOSPHERE COSMIC RADIATION RADIATION GASES
CONCENTRATION

06843 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR
TRITIATED WATER AND TRITIATED THYMIDINE.
MAXIMUM PERMISSIBLE CONCENTRATION DOSE ESTIMATION
TRITIATED WATER TRITIATED THYMIDINE
BETA RADIATION RADIATION CONCENTRATION
ABSORBED DOSE

06847 TRITIUM CONTENT OF ANTARCTIC SNOW.
ANTARCTIC SNOW CONCENTRATION
PRECIPITATION (METEOROLOGICAL)

06872 TRITIUM CONTENT OF ANTARCTIC SNOW.
ANTARCTIC SNOW PRECIPITATION (METEOROLOGICAL)
CONCENTRATION

06878 TRITIUM CONCENTRATION IN PRECIPITATION,
1967-1968. ENVIRONMENTS ALTITUDE
SEASONAL VARIATIONS HYDROLOGICAL CYCLING
PRECIPITATION (METEOROLOGICAL) RAINFALL
CONCENTRATION

06884 THE DETERMINATION OF TRITIUM IN NATURAL
WATERS. RAINWATER SEA WATER SNOW
PRECIPITATION (METEOROLOGICAL) CONCENTRATION
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
CANADA WASHOUT

06885 SEASONAL VARIATIONS OF BOMB-PRODUCED
TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS
RAINWATER GERMANY CONCENTRATION RAINOUT
WASHOUT ATMOSPHERE (TERRESTRIAL)
PERIODIC VARIATIONS
PRECIPITATION (METEOROLOGICAL)

06886 TRITIUM IN CRATER LAKE, OREGON.
CRATER LAKE LAKES TRANSFER
PRECIPITATION (METEOROLOGICAL) CONCENTRATION
RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE
HYDROLOGY

06887 TRITIUM INJECTION AND CONCENTRATION
DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90
O-18 RADIOACTIVE TRACERS TRACERS MODELS
CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE
FALLOUT HYDROLOGY DISTRIBUTION
PRECIPITATION (METEOROLOGICAL)
ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE
MATHEMATICAL MODELS

06890 WATER VAPOR, MOLECULAR HYDROGEN, METHANE,
AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE.
WATER VAPOR METHANE ATMOSPHERIC HYDROGEN
CONCENTRATION STRATOSPHERE DEUTERIUM
SPECIFIC ACTIVITIES

06891 DAILY VARIATIONS IN THE TRITIUM
CONCENTRATION OF ATMOSPHERIC MOISTURE.
CONCENTRATION ATMOSPHERIC TRITIUM
TRITIATED WATER DIURNAL VARIATIONS
PERIODIC VARIATIONS TRANSPORT SEA WATER
METEOROLOGY MIXING AIR MASSES

06892 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER
ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL
ALTITUDES. TRITIATED WATER ICE
SEASONAL VARIATIONS SNOW CONCENTRATION
DEPOSITION MT. EVEREST
RADIOACTIVE AGE DETERMINATION

06896 TRITIUM CONTENT IN A FIRN CORE FROM
ANTARCTICA. ANTARCTIC FIRN PROFILES FALLOUT
SNOW PRECIPITATION (METEOROLOGICAL)
CONCENTRATION ACCUMULATION RATE

06897 TRITIUM CONTENT OF RAIN IN TRONDHEIM.
CONCENTRATION RAINWATER RESIDENCE TIME
STRATOSPHERE SR-90 PRECIPITATION (METEOROLOGICAL)
MONITORING NORWAY

06898 RADIATION DOSES RESULTING FROM THE
ADMINISTRATION OF TRITIATED POLIC. ACID AND
TRITIATED WATER TO THE RAT. TRITIATED WATER
TRITIATED COMPOUNDS TRITIATED POLIC ACID

DISTRIBUTION RETENTION RATS RODENTS MAMMALS
RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS
TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE
CONCENTRATION DOSE RATES

06899 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968.
BODY BURDEN BODY WATER DOSE EQUIVALENTS
CHILDREN URINE CONCENTRATION SAMPLING NETWORKS
DIETS UNITED STATES

06900 TRITIUM CONCENTRATIONS IN FOOD, 1967-1968.
CONCENTRATION FOODS DOSE EQUIVALENTS CHILDREN
UNITED STATES

06901 TRITIUM IN COMMUNITY WATER SUPPLIES, 1969.
CONCENTRATION COMMUNITY WATER SUPPLIES
RADIATION DOSE GROUND WATER SURFACE WATERS
UNITED STATES SAMPLING

06902 TRITIUM IN SURFACE WATER NETWORK,
JULY-DECEMBER 1969. SURFACE WATERS
RADIATION EXPOSURE CONCENTRATION SAMPLING
UNITED STATES

06903 TRITIUM IN SURFACE WATER NETWORK,
JANUARY-JUNE 1970. CONCENTRATION
SURFACE WATERS RADIATION DOSE SAMPLING
UNITED STATES

06904 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR
FUEL REPROCESSING INSTALLATION, 1965-1967.
ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS
STACK DISCHARGES MILK DEER FISH
RADIOACTIVE WASTES CONCENTRATION SILT WATER
RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95
CO-60 RU-106 CS-134 PU-238 PU-239 U-235
U-238 K-40 NEW YORK AIR

06905 TRITIUM IN STREAMS IN THE UNITED STATES,
1961-1968. STREAMS CONCENTRATION UNITED STATES
ALASKA SAMPLING STREAM DISCHARGE
SAMPLING NETWORKS

06906 TRITIUM SOURCES AND RELEASE TO THE
ENVIRONMENT. CONCENTRATION NUCLEAR FUEL PLANTS
NUCLEAR POWER INDUSTRY RADIOACTIVE WASTES
NUCLEAR REACTORS

06909 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL
SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES;
TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET
DEPOSITION. SOILS CONTAMINATION RADIATION DOSE
MAN MOVEMENT DEPOSITION MODELS RAINFALL
PRECIPITATION (METEOROLOGICAL)
MATHEMATICAL MODELS DIFFUSION COEFFICIENT
CONCENTRATION TRANSFER

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON
AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS
ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON
AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS
ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT.
FALLOUT CRATER LAKE LAKES SR-90 CS-137
TEMPERATURE PROFILES CONCENTRATION SOILS
SEDIMENTS

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY
WATER MODERATED REACTORS. RADIOLOGICAL HAZARDS
HEAVY WATER REACTORS NUCLEAR REACTORS
CONCENTRATION ASSIMILATION URINE
BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN
1962 AND 1963. RAINOUT WASHOUT
SEASONAL VARIATIONS PERIODIC VARIATIONS
DISTRIBUTION UNITED STATES CONCENTRATION
PRECIPITATION (METEOROLOGICAL) SAMPLING
SAMPLING NETWORKS ALASKA PUERTO RICO

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING
1966, 1967, AND 1968. RAINOUT FALLOUT
PRECIPITATION (METEOROLOGICAL) CONCENTRATION
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
DISTRIBUTION RAINFALL SAMPLING
SAMPLING NETWORKS

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

07017 NEW TRITIUM AND DEUTERIUM MEASUREMENTS IN ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN CONCENTRATION ATMOSPHERIC NUCLEAR TESTING

07018 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. DEUTERIUM CONCENTRATION ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PERIODIC VARIATIONS

07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSCS INTERCALIBRATION STATION. NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS CONCENTRATION DEPTH MIXING

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07028 TRITIUM-ANSTIEG IM ATMOSPHERISCHEN WASSERSTOFF. (TRITIUM INCREASE IN ATMOSPHERIC HYDROGEN.) ATMOSPHERIC HYDROGEN CONCENTRATION TROPOSPHERE

07029 SOME CONSIDERATIONS ON TRITIUM DATING AND THE ESTIMATES OF TRITIUM INPUT FUNCTION. RADIOACTIVE AGE DETERMINATION GROUND WATER HYDROLOGY CONCENTRATION PRECIPITATION (METEOROLOGICAL) RESIDENCE TIME

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) CONCENTRATION PRECIPITATION (METEOROLOGICAL) FRANCE SEASONAL VARIATIONS PERIODIC VARIATIONS TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE STRATOSPHERE SR-90

07032 PREMIERS RESULTATS SUR LA TENUE EN TRITIUM DES EAUX DU LAC LEMAN. (PRIMARY RESULTS OF THE TRITIUM CONTENT OF THE WATER OF LAKE LEMAN.) CONCENTRATION LAKE GENEVA LAKES SEASONAL VARIATIONS PERIODIC VARIATIONS

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) FALLOUT CANADA EUROPE ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RAINFALL PRECIPITATION (METEOROLOGICAL) CONCENTRATION

07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS SARGASSO SEA OCEANS SR-90 FALLOUT ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION DEPTH ACTIVATION ANALYSIS

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES. ELECTROLYTIC ENRICHMENT ENRICHMENT CONCENTRATION SNOW PRECIPITATION (METEOROLOGICAL) THERMAL DIFFUSION RECOVERY ANTARCTIC

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS. NUCLEAR REACTORS REACTORS NUCLEAR POWER WASTES RADIOACTIVE WASTES SURFACE WATERS CONCENTRATION SAMPLING TRITIATED WATER

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN DIETS WATER ORGANS MONITORING NETWORKS AIRBORNE PARTICULATES

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW

CONCENTRATION PLOWSHARE PROGRAM ALBUTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING ANCHITKA ISLAND WATER

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ENVIRONMENTAL MONITORING STACK EMISSIONS 1-120 KR-85 CONCENTRATION AIRBORNE PARTICULATES RADIOACTIVITY

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. TRITIATED WATER PLOWSHARE PROGRAM CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS OIL LEACHING CONCENTRATION OIL SHALE

07058 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION 1-131 VEGETATION

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE NATURAL WATER OF SOUTHERN OAHU, HAWAII. CONCENTRATION RAINWATER GROUND WATER HAWAII TRITIATED WATER ELECTROLYTIC ENRICHMENT LIQUID SCINTILLATION COUNTING

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

07075 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING MOUND LABORATORY TRITIUM OXIDE MONITORING

07077 ENVIRONMENTAL ISOTOPE DATA NO. L; WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1953-1963). DEUTERIUM O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE AIR TEMPERATURE GLOBAL NETWORK MONITORING

07083 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963. CONCENTRATION GROUND WATER HANFORD PROJECT WASTES CONTAMINATION RADIOACTIVE WASTES

07089 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY- JUNE, 1968. GROUND WATER CONTAMINATION CONCENTRATION MAXIMUM PERMISSIBLE CONCENTRATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL AQUIFERS HANFORD PROJECT RU-106

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY PLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS; SEVENTH PROGRESS REPORT. VERTICAL DISTRIBUTION DISTRIBUTION TROPOSPHERE CONCENTRATION WATER VAPOR EVAPOTRANSPIRATION MIXING ILLINOIS

07095 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT JULY- DECEMBER 1969. CONCENTRATION GROUND WATER CR-51 HANFORD PROJECT NITRATE IONS RU-106

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION TISSUES BODY WATER MAN RADIATION EXPOSURE

07101 EVALUATION OF POTENTIAL HAZARDS FROM TRITIUM WATER. RADIOLOGICAL HAZARDS TRITIATED WATER BIOLOGICAL DOSE EQUIVALENTS EXCRETION CONCENTRATION ORGANS DNA GENETIC EFFECTS

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY.
STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK
CONCENTRATION SEDIMENTS DISTRIBUTION
RADIOACTIVE WASTES WASTES CONTAMINATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
SURFACE SEEPAGE

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER,
1967. ENVIRONMENTAL MONITORING FALLOUT FOODS
CROPS MILK DAIRY PRODUCTS WATER SOILS FISH
VEGETATION SR-90 1-129 AIR CONCENTRATION
NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE
1969. ENVIRONMENTAL MONITORING FALLOUT FOODS
CROPS MILK DAIRY PRODUCTS WATER SOILS FISH
VEGETATION SR-90 1-129 AIR NEW YORK
CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3;
SEPTEMBER-DECEMBER 1967.
ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS
MILK DAIRY PRODUCTS WATER SOILS FISH
CONCENTRATION AIR NEW YORK VEGETATION SR-90
1-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE
1968. FOODS ENVIRONMENTAL MONITORING
RADIOACTIVE WASTES FALLOUT CROPS MILK
DAIRY PRODUCTS WATER SOILS FISH VEGETATION
SR-90 1-129 AIR CONCENTRATION NEW YORK

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS
REPORT, 1968-1969. Y-90 SR-90 CRASSOSTREA
OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS
CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS
STIMULATION TECHNIQUES. NATURAL GAS
FLOWSHARE PROGRAM METHANE TRITIUM OXIDE
NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14
NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES
CONCENTRATION PROJECT GASBUGGY

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN
THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS.
GROUND WATER CHLORIDES CONCENTRATION
CIRCULATION DILUTION NEW ZEALAND MIXING
TRITIATED WATER BORES GEOTHERMAL WATERS

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL
SAFETY REPORT QB-2R PHASE I PROGRAM. WATER
VEGETATION SOILS CONCENTRATION
ATMOSPHERE (TERRESTRIAL) PROJECT GASBUGGY
SAMPLING NETWORKS FLOWSHARE PROGRAM

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT
GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85
PROJECT GASBUGGY FLOWSHARE PROGRAM PLATING
SOILS ENVIRONMENTAL MONITORING
ATMOSPHERE (TERRESTRIAL) SNOW
PRECIPITATION (METEOROLOGICAL) VEGETATION
CONCENTRATION

07123 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1968. APPENDICES.
ENVIRONMENTAL MONITORING HANFORD PROJECT
CONCENTRATION COLUMBIA RIVER RIVERS

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM
INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES.
CONTAMINATION NUCLEAR REACTORS REACTORS
NUCLEAR POWER NUCLEAR FUEL PLANTS
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
CONCENTRATION LAKES

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR
TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN
FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION
SOIL PROFILES VEGETABLES CORN RADISHES
POTATOES BEANS MELONS ONIONS
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER
FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF
CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS.
GROUND WATER SURFACE WATERS EUROPE WINES
CONCENTRATION CATTLE TESTS RUNOFF RAINFALL
PRECIPITATION (METEOROLOGICAL) RIVERS MODELS
WEBER RIVER GERMANY

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF
RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181
DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER
NUCLEAR CRATERS NUCLEAR TESTING EJECTA
CONCENTRATION RAINFALL SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54
NB-95 CO-58 Y-88

07138 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY

FLOWSHARE PROGRAM KR-85 CONCENTRATION
NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE
GASBUGGY EXPERIMENT. PROJECT GASBUGGY
FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON
CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN
NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL
PROJECT BRONCHO DISTRIBUTION
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
NATURAL GAS

07140 A PRELIMINARY ASSESSMENT OF THE
RADIOLOGICAL IMPLICATIONS OF COMMERCIAL
UTILIZATION OF NATURAL GAS FROM A NUCLEARLY
STIMULATED WELL. PROJECT GASBUGGY
FLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY
DOSE EQUIVALENTS RADIATION EXPOSURE KR-85
CONCENTRATION RADIOLOGICAL HAZARDS

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN
GROUND WATER. MIGRATION GROUND WATER
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
EXPLOSIONS NEVADA TEST SITE SR-90
RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY
CONTAMINATION CONCENTRATION

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1968. CONCENTRATION
COLUMBIA RIVER HANFORD PROJECT P-32
ENVIRONMENTAL MONITORING CR-51 ZN-65 1-131
SR-90

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN
AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN
NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN,
PUERTO RICO, 4-6 MAY 1969. MOVEMENT
MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS
CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME
TRITIATED WATER SOILS LITTER LEAVES TREES
TROPICS

07149 ENVIRONMENTAL MONITORING REPORT;
JANUARY-JUNE 1969. PU-238 PO-210
ENVIRONMENTAL MONITORING MOUND LABORATORY
MIAMI RIVER RIVERS CONCENTRATION

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW
EVENT. MILROW RADIOACTIVITY GROUND WATER
CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION
ALASKA ALEUTIAN ISLANDS ANCHITKA ISLAND
TSUNAMIS BIOLOGICAL EFFECTS
UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK
WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES
NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL
SURVEILLANCE. PROJECT BUGGY I FLOWSHARE PROGRAM
NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING
CONCENTRATION SNOW 1-131
PRECIPITATION (METEOROLOGICAL)
ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK
VEGETATION

07164 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES
AND METEORITES. SUMMARY REPORT NO. 2, FOR THE
PERIOD 1 NOVEMBER 1961--31 OCTOBER 1962.
ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE
PRECIPITATION (METEOROLOGICAL) WATER
CONCENTRATION METEORITES GERMANY

07165 SALIVA-SERUM RATIOS OF TRITIUM AFTER THE
ADMINISTRATION OF TRITIATED WATER.
TRITIATED WATER CONCENTRATION SALIVA SERUM MAN

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN
CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA
SURFACE WATERS PRECIPITATION (METEOROLOGICAL)
HYDROLOGICAL CYCLING CONCENTRATION
SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS
ALASKA GREENLAND

07168 VARIATION OF THE TRITIUM AND OXYGEN-18
CONTENT IN PRECIPITATION AND SNOWPACK IN A
REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. O-18
CONCENTRATION PRECIPITATION (METEOROLOGICAL)
SNOWPACK CZECHOSLOVAKIA SNOW RAINFALL
WATER BALANCE

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF
HIGH AND LOW PERMEABILITY STRATA BY MEASURING
NATURAL TRITIUM. CONCENTRATION GROUND WATER
MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE
CLAYS SOILS PERMEABILITY

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM
MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN
SOUTHERN AFRICA. GROUND WATER SOUTH AFRICA
AQUIPERS PRECIPITATION (METEOROLOGICAL) RECHARGE
HYDROLOGICAL CYCLING CONCENTRATION

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER
SAMPLES FROM SWITZERLAND. O-18 ALPS
CONCENTRATION SPRINGS SEASONAL VARIATIONS
RECHARGE GROUND WATER
PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS
DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.
TRITIATED WATER TRITIATED WATER VAPOR
SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION
ATMOSPHERE (TERRESTRIAL) SOILS LOAM

07180 ASSESSMENT OF TRITIUM IN MAN. MAN
RADIATION EXPOSURE OCCUPATIONAL EXPOSURE
ASSIMILATION INHALATION URINE ANALYSIS
ELIMINATION BIOLOGICAL HALF-LIFE
MATHEMATICAL MODELS MATHEMATICAL ANALYSIS
METABOLISM HALF-LIFE CONCENTRATION BODY WATER
RADIATION DOSE MODELS

07181 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING
WASTE. RADIOACTIVE WASTES NUCLEAR FUEL PLANTS
MOVEMENT SOILS GROUND WATER CONTAMINATION
CONCENTRATION RADIOACTIVE WASTE DISPOSAL
HANFORD PROJECT

07182 ENVIRONMENTAL ISOTOPE DATA NO 2. WORLD
SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION
(1964-1965). DEUTERIUM O-18 CONCENTRATION
MONITORING PRECIPITATION (METEOROLOGICAL)
VAPOR PRESSURE

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL
REPORT. RADIOACTIVITY SR-90 CONCENTRATION
Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT
NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING
LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS
BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON
CHEMICAL WASTES RADIOACTIVE WASTES

07185 GROUND WATER SAFETY EVALUATION - PROJECT
GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY
FLOWSHARE PROGRAM CS-137 CONCENTRATION
TRANSPORT HYDROLOGY MIGRATION CONTAMINATION
NEW MEXICO GEOLOGY MONITORING

07187 FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES
FROM NUCLEAR POWER PRODUCTION. GREAT LAKES
LAKE MICHIGAN NUCLEAR REACTORS
NUCLEAR POWER INDUSTRY TRANSPORT CONCENTRATION
RADIOACTIVITY

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW
THROUGH THE EL VERDE FOREST SYSTEM.
MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS
PUERTO RICO MOVEMENT CONCENTRATION LITTER
RESIDENCE TIME TROPICS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC
POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS
CONCENTRATION SURFACE WATERS
RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS
RADIATION DOSE RADIOLOGICAL HAZARDS
TRITIATED WATER MUTATIONS RADIATION EFFECTS
GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

CONCENTRATION GUIDES

06821 RADIOACTIVITY IN WATER - PROJECT RULISON.
PROJECT RULISON FLOWSHARE PROGRAM
MESAVERDE FORMATION RADIOACTIVITY
CONCENTRATION GUIDES GROUND WATER TRANSPORT

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137
CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46
SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL)
COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS
MILK RADIOACTIVITY TRITIUM OXIDE

CONNECTICUT YANKEE REACTOR

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER
REACTOR. LI-7 NUCLEAR REACTORS
COOLANT ADDITIVES B-10 SAN ONOPRE REACTOR
SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR
COMPUTER PROGRAMS

CONSTANTS

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE
CRITICAL POINT OF HYDROGEN, DEUTERIUM, AND
TRITIUM, AND THEIR DIATOMIC COMBINATIONS.
DEUTERIUM HYDROGEN GASES VAPOR PRESSURE
COEFFICIENTS TEMPERATURE CONSTANTS

CONTAMINATION

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS
AND THEIR BIOLOGICAL SIGNIFICANCE. CONTAMINATION

RADIOACTIVITY FALLOUT DOSE RATES SAFETY MAN
RADIATION EXPOSURE FRESH WATER

03618 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN
ORGANS HALF-LIFE FOOD-CHAINS
BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL
DOSE ESTIMATION MODELS CONTAMINATION
ENVIRONMENTS TRANSFER COMPARTMENTS
SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND
INGESTION COMPUTER PROGRAM

04136 DER ANSTIEG DES TRITIUMGEBHALTES IM
ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE
IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN
SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION
MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
TROPOSPHERE MIXING RETENTION

04147 RADIOACTIVITY AND HUMAN DIET.
RADIOACTIVITY MAN RADIATION EXPOSURE
CONTAMINATION MILK FOOD-CHAINS FALLOUT
VEGETATION ABSORPTION SOILS ANIMALS METABOLISM
PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH
FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM
ENVIRONMENTS FOODS CALCIUM

04893 RADIOISOTOPE ABSORPTION AND METHODS OF
ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF
ENTRY. ABSORPTION ELIMINATION MAN SKIN
INGESTION LUNGS GASTROINTESTINAL TRACT
CONTAMINATION

05051 SOME SECOND THOUGHTS ON TRITIUM
CONTAMINATION. CONTAMINATION RADIOACTIVITY
GASES DIFFUSION WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL TRITIUM GAS
RADIOLOGICAL HAZARDS

05105 TRITIUM ET EAU TRITIEE- DUREES LIMITE
DEXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU
RENOUVELER (TRITIUM AND TRITIATED WATER- TIME
LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR
REGENERATED ATMOSPHERES). CONTAMINATION
ACCIDENTS ABSORPTION EQUATIONS MATHEMATICS
TISSUES DIFFUSION TRITIATED WATER

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY
PEOPLE. ABSORPTION INHALATION SKIN
CONTAMINATION BODY WATER URINE BODY FLUIDS
ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE
TRITIATED WATER WATER VAPOR

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO
COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING
TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR
EXPLOSION IN WESTERN COLORADO.
UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING
NUCLEAR TESTING TRANSPORT CONTAMINATION
ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY
HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO
FLOWSHARE PROGRAM PROJECT GASBUGGY
PROJECT RULISON

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA
ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY
AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS
LONG SHOT CONTAMINATION SURFACE WATERS
GROUND WATER MOVEMENT

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT
SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY
GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA
EXPLOSIONS ALUTIAN ISLANDS
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
SURFACE WATERS CONTAMINATION STRATIGRAPHY
PETROGRAPHY SEISMIC REFRACTION PROFILES
TRANSPORT TRITIATED WATER GROUND WATER

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN
NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE
RADIATION EXPOSURE FOODS KR-85
RADIOACTIVE TRACERS TRACERS ENGINEERING
CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY
SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS
CONTAMINATION RADIOACTIVE WASTE DISPOSAL
GROUND WATER MOVEMENT PROJECT GNOME
NEVADA TEST SITE FLOWSHARE PROGRAM

06399 GROUND WATER CONTAMINATION PREDICTIONS.
CONTAMINATION SAFETY NUCLEAR EXPLOSIONS
EXPLOSIONS FISSION PRODUCTS
RADIOACTIVE WASTE DISPOSAL GROUND WATER
CONCENTRATION

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06439 MEASUREMENT OF TRITIUM SURFACE CONTAMINATION. OXIDES SCINTILLATION COUNTING CONTAMINATION MEASUREMENT

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN FLOWSHARE PROGRAM NEVADA TEST SITE

06461 FISSION PRODUCT TRITIUM IN SEPARATIONS WASTES AND IN THE GROUND WATER. CONTAMINATION GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL COLUMBIA RIVER

06465 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1968. SURFACE WATERS CLINCH RIVER RIVERS POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06466 TRITIUM IN SURFACE WATER NETWORK, 1967. SURFACE WATERS RIVERS SAVANNAH RIVER POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION SR-90 RU-106 CONTAMINATION GROUND WATER TC-99 RADIOACTIVE DECAY CS-137 LEACHING

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER CONTAMINATION RADIATION HANFORD PROJECT RADIOACTIVE WASTE DISPOSAL BETA RADIATION RH-RU-106 WASTE DISPOSAL AQUIPERS SR-90 CS-137

06612 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER 1966. RU-106 GROUND WATER CONTAMINATION HANFORD PROJECT AQUIPERS CONCENTRATION

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. CONTAMINATION RADIOACTIVE TRACERS TRACERS STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS TRITIATED WATER ATMOSPHERE (TERRESTRIAL) DISTILLATION SCINTILLATION COUNTING

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06624 DETECTION DE LA CONTAMINATION DE LAIR PARA LA VAPEUR DEAU TRITIEE AUPRES DE LA PILE EL 3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR EL 3). AIR POLLUTION WATER VAPOR CONTAMINATION POLLUTION GASES EQUIPMENT NUCLEAR REACTORS TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. TRITIATED POLYMERS LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION CONTAMINATION CONCENTRATION GRAM-LAMBERT MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

06790 ENVIRONMENTAL MONITORING REPORT- JULY-DECEMBER 1969 AND 1969 SUMMARY. CONTAMINATION MIAMI RIVER ENVIRONMENTAL MONITORING

06818 A METHOD FOR EVALUATING SURFACE CONTAMINATION OF SOFT BETA EMITTERS. LIQUID SCINTILLATION COUNTING SURFACE CONTAMINATION CONTAMINATION BETA RADIATION

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. FLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 SU-155 SM-151 CD-113 QD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06899 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1968. TRITIATED WATER SHALE DISTRIBUTION THERMAL ANALYSIS CANE FLOWSHARE PROGRAM CONTAMINATION OIL SHALE

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1969. FLOWSHARE PROGRAM TRITIATED WATER SHALE DISTRIBUTION CANE THERMAL ANALYSIS NATURAL GAS HYDROGEN CONTAMINATION

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY - GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. NATURAL GAS CONTAMINATION FLOWSHARE PROGRAM KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS FLUSHING DILUTION PROJECT GASBUGGY

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM. PE-55 NI-59 RADIATION MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER RADIOLOGICAL HAZARDS CONTAMINATION NUCLEAR REACTORS

06946 DETECTION ET MEASURE DE LA CONTAMINATION DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF THE CONTAMINATION OF GASES AND VAPORS). TRITIATED WATER OXIDATION FISSION PRODUCTS METALLIC TRITIDES TRITIATED HYDROGEN CONTAMINATION

06947 MESSAGERABT PUER TRITIUM (MEASUREMENT DEVICE FOR TRITIUM). PROPORTIONAL COUNTER COUNTERS RADIATION MEASUREMENT DOSIMETRY CONTAMINATION

06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). RADIATION PROPORTIONAL COUNTER COUNTERS MEASUREMENT SURFACE CONTAMINATION CONTAMINATION LIQUID SCINTILLATION COUNTING BETA RADIATION

06955 MESURE DE LA CONTAMINATION DU CORPS HUMAIN (MEASUREMENT OF THE CONTAMINATION OF THE HUMAN BODY). THYMIDINE TRITIATED HYDROGEN TRITIATED WATER URINE MAN CONTAMINATION

06956 MEASUREMENT OF TRITIUM AT NATURAL LEVELS. CITY WATER RAINWATER WELL WATER NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) CONTAMINATION

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07055 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1969. CANE FLOWSHARE PROGRAM OIL SHALE CONTAMINATION RETORTED OIL

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

07073 CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE RADIOLOGICAL SAFETY REPORT.
CARLSBAD ROLL-UP PROGRAM FLOWSHARE PROGRAM
CONTAMINATION SOIL CONTAMINATION DECONTAMINATION
NEW MEXICO RADIOACTIVE WASTES

07076 TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION. HEALTH HAZARDS HAZARDS
RADIOLOGICAL HAZARDS CONTAMINATION
PARTICLE ACCELERATORS

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1969. CANE SHALE SEDIMENTARY ROCK ROCK
CONTAMINATION TRITIATED METHANE TRITIATED ETHANE
FLOWSHARE PROGRAM

07083 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963. CONCENTRATION
GROUND WATER HANFORD PROJECT WASTES
CONTAMINATION RADIOACTIVE WASTES

07084 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1969. CONTAMINATION SHALE ROCK
SEDIMENTARY ROCK CANE FLOWSHARE PROGRAM

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968. SHALE CANE RETENTION PENETRATION
EXTRACTION FLOWSHARE PROGRAM SEDIMENTARY ROCK
ROCK CONTAMINATION

07089 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY- JUNE, 1968.
GROUND WATER CONTAMINATION CONCENTRATION
MAXIMUM PERMISSIBLE CONCENTRATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
AQUIPERS HANFORD PROJECT RU-106

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER
FLOWSHARE PROGRAM MOVEMENT CONTAMINATION
GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS
TRANSPORT GASES DIFFUSION KR-85
DIFFUSION EQUATION EQUATIONS

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964.
ENVIRONMENTAL MONITORING
ARGONNE NATIONAL LABORATORY RADIOACTIVITY
AIR MONITORING MONITORING CONTAMINATION
SAWMILL CREEK DES PLAINES RIVER RIVERS
RADIOACTIVE WASTES SR-90 TRITIATED WATER
ALPHA RADIATION BETA RADIATION SR-89 BA-140
CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM
SURFACE WATERS VEGETATION SOILS

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS.
NUCLEAR WARHEADS PU-239 ABSORPTION SKIN
GASTROINTESTINAL TRACT RETENTION INHALATION
TOXICITY INGESTION BONE RADIATION EXPOSURE
LUNGS LIVER RADIATION DOSE DECONTAMINATION
BIOLOGICAL EFFECTS CONTAMINATION

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON FLOWSHARE PROGRAM
RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING
CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS
POODS LIVESTOCK VEGETATION NATURAL GAS
CONTAMINATION

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK
CONCENTRATION SEDIMENTS DISTRIBUTION
RADIOACTIVE WASTES WASTES CONTAMINATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
SURFACE SEEPAGE

07115 THE USE OF WATER AS A SAMPLING MEDIUM FOR TRITIUM OXIDE. BETA RADIATION HANFORD PROJECT
ENVIRONMENTAL MONITORING OXIDES SAMPLING
TRITIUM OXIDE CONTAMINATION

07116 MEANS OF DETECTING AND PROTECTING AGAINST TRITIUM. ATMOSPHERIC TRITIUM CONTAMINATION
INSTRUMENTS DETECTION DIFFUSION DECONTAMINATION

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES.
CONTAMINATION NUCLEAR REACTORS REACTORS
NUCLEAR POWER NUCLEAR FUEL PLANTS
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
CONCENTRATION LAKES

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. CONTAMINATION
OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR

TRITIATED HYDROGEN TRITIATED METHANE
TRITIATED ETHANE RETORTED OIL

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
EXPLOSIONS NEVADA TEST SITE SR-90
RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY
CONTAMINATION CONCENTRATION

07144 REPAIRING A LARGE TRITIUM-CONTAMINATED SYSTEM. DRY BOX SYSTEM REPAIR
GAS PURIFICATION SYSTEM CONTAMINATION
RADIATION EXPOSURE MAN

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS
RADIATION EXPOSURE CONTAMINATION
ENVIRONMENTAL MONITORING RADIATION DOSE SR-90
DECONTAMINATION RADIOACTIVE WASTE DISPOSAL
WASTE DISPOSAL I-131 PU-239

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIÉE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR
DISPERSION CONTAMINATION
ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS
IRRADIATION MAN RADIATION DOSE
RADIATION EXPOSURE INGESTION AGE FOODS

07161 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING WASTE. RADIOACTIVE WASTES NUCLEAR FUEL PLANTS
MOVEMENT SOILS GROUND WATER CONTAMINATION
CONCENTRATION RADIOACTIVE WASTE DISPOSAL
HANFORD PROJECT

07165 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY
FLOWSHARE PROGRAM CS-137 CONCENTRATION
TRANSPORT HYDROLOGY MIGRATION CONTAMINATION
NEW MEXICO GEOLOGY MONITORING

07166 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. CANE TRITIATED HYDROGEN
TRITIATED METHANE SHALE CONTAMINATION
TRITIATED WATER NATURAL GAS FLOWSHARE PROGRAM
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY
BIOLOGICAL HALF-LIFE RADIATION EFFECTS
ENRICHMENT MOVEMENT FOOD-CHAINS
RADIOACTIVE WASTE DISPOSAL
ENVIRONMENTAL MONITORING NUCLEAR REACTORS
RADIATION EXPOSURE T/H RATIO
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
CONTAMINATION

COOLANT ADDITIVES

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR. LI-7 NUCLEAR REACTORS
COOLANT ADDITIVES B-10 SAN ONOPRE REACTOR
SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR
COMPUTER PROGRAMS

COOLING WATER

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT
ENVIRONMENTAL RADIATION RADIATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
COOLING WATER RIVERS RADIATION EXPOSURE
COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES
WASTES

COPPER

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. TRITIATED WATER FLOWSHARE PROGRAM
CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS
OIL LEACHING CONCENTRATION OIL SHALE

CORN

06466 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS
MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN
CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS
MUTATIONS

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN
FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION
SOIL PROFILES VEGETABLES CORN RADISHES
POTATOES BEANS MELONS ONIONS
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

CORNEAL ENDOTHELIUM

06612 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM
AFTER INCORPORATION OF H-3-THYMIDINE.
TRITIATED THYMIDINE RABBITS CORNEAL ENDOTHELIUM
ENDOTHELIAL CELLS ENDOTHELIUM DNA SYNTHESIS
RETENTION

CORTEX

06686 RADIAL EXCHANGE OF LABELED WATER IN INTACT
MAIZE ROOTS. TRITIATED WATER ROOTS CORTEX
ENDODERMIS METABOLISM DIFFUSION COEFFICIENT
DIFFUSION UPTAKE

COSMIC RADIATION

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE
ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24
SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39
HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL)
COSMIC RADIATION ENVIRONMENTS

06190 TRITIUM GEOPHYSICS AS AN INTERNATIONAL
RESEARCH PROJECT. GEOPHYSICS HYDROLOGY
COSMIC RADIATION METEOROLOGY OCEANOGRAPHY
TRACERS

06223 NEUBESTIMUNG DER NATUERLICHEN IRDISCHEN
TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES
NATUERLICHEN TRITIUM (REDETERMINATION OF NATURAL
TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE
OF NATURAL TRITIUM). RADIOACTIVE DECAY
COSMIC RADIATION RADIATION RESIDENCE TIME
STRATOSPHERE TROPOSPHERE SNOW GREENLAND

06245 CONTINENTAL WATER BALANCE, GROUND WATER
INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING
RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS
FROM COSMIC RAY AND MAN-MADE TRITIUM.
WATER BALANCE GROUND WATER RESIDENCE TIME
OCEANS MIXING RADIATION NORTH AMERICA RAINOUT
TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW
DEPOSITION HYDROLOGY COSMIC RADIATION
CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06246 THE PRODUCTION RATE OF NATURAL TRITIUM.
PRECIPITATION (METEOROLOGICAL) NORTH AMERICA
TROPOSPHERE STRATOSPHERE RESIDENCE TIME
COSMIC RADIATION RADIATION NUCLEAR TESTING
TRANSPORT WATER VAPOR GASES DEUTERIUM
PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06252 THE GEOCHEMISTRY OF TRITIUM.
PRECIPITATION (METEOROLOGICAL)
NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY
GROUND WATER SURFACE WATERS ATLANTIC OCEAN
METEOROLOGY RAINWATER OCEANOGRAPHY MIXING
RUNOFF CIRCULATION COSMIC RADIATION RADIATION
THERMOCLINE PRODUCTION RATE SEA WATER

06253 THE NATURAL DISTRIBUTION OF TRITIUM.
COSMIC RADIATION SURFACE WATERS RADIATION
DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES
WINES PRODUCTION RATE
PRECIPITATION (METEOROLOGICAL) T/H RATIO

06353 DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE
SOLAR ORIGIN OF NATURAL TRITIUM. DISTRIBUTION
MATHEMATICAL ANALYSIS ANALYSIS PRODUCTION RATE
NORTH AMERICA ATMOSPHERE (TERRESTRIAL)
COSMIC RADIATION

06397 TRITIUM IN NATURE. COSMIC RADIATION
PRECIPITATION (METEOROLOGICAL) WATER LAKES
OCEANS RIVERS SURFACE WATERS PRODUCTION RATE
WINES SEA WATER

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED
TRITIUM II. DISTRIBUTION COSMIC RADIATION
SURFACE WATERS RADIATION RAINFALL
PRECIPITATION (METEOROLOGICAL) TRITIATED WATER
SEA WATER FRESH WATER WINES

06402 TRITIUM IN NATURE. SURFACE WATERS NORWAY
COSMIC RADIATION HE-3 RADIATION DEUTERIUM

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC
ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC
RESERVOIRS. AR-37 AR-39 C-14 RADIATION
RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS
ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION
KRYPTON XENON

06642 MEASUREMENTS OF THE WATER VAPOR, TRITIUM
AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE
OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18
WATER VAPOR CARBON DIOXIDE HUMIDITY
STRATOSPHERE COSMIC RADIATION RADIATION GASES
CONCENTRATION

06671 TRITIUM IN RAINWATER. COSMIC RADIATION

RADIATION TROPOSPHERE STRATOSPHERE
PRECIPITATION (METEOROLOGICAL) RAINWATER
PRODUCTION RATE HYDROLOGY

06695 NATURAL TRITIUM. BACKGROUND RADIATION
ATMOSPHERE (TERRESTRIAL)
PRECIPITATION (METEOROLOGICAL) SEA WATER
ENVIRONMENTAL RADIATION RADIATION
COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE
L'ATMOSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION).
TRITIATED HYDROGEN TRITIATED METHANE
TRITIATED WATER COSMIC RADIATION RADIATION
REACTORS SOIL CONTAMINATION NUCLEAR EXPLOSIONS

06968 COSMIC-RAY PRODUCTION OF DEUTERIUM AND
TRITIUM IN THE EARTH'S ATMOSPHERE.
COSMIC RADIATION PRODUCTION RATE
ATMOSPHERE (TERRESTRIAL) DEUTERIUM RADIATION

07002 (HUMAN BODY DOSES FROM NATURAL
RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40
RA-226 PB-210 BI-210 PO-210 RADIATION DOSE
COSMIC RADIATION RADIATION
ATMOSPHERE (TERRESTRIAL) ORGANS MAN
RADIATION EXPOSURE WHOLE BODY EXPOSURE

07047 A STUDY OF LOW ENERGY GALACTIC COSMIC RAYS
FROM 1961 TO 1965. ATMOSPHERE (TERRESTRIAL)
DEUTERIUM COSMIC RAY NEUTRONS PRODUCTION RATE
COSMIC RADIATION

7 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM.
COSMIC RADIATION METEOROLOGY WATER HYDROLOGY
RADIOACTIVE AGE DETERMINATION WATER SUPPLY
PLANTS TRACERS

COSMIC RAY NEUTRONS

06649 CALCULATION OF LOW-ENERGY NEUTRON FLUX IN
THE ATMOSPHERE BY THE S SUB N METHOD. C-14
NEUTRON FLUX SN METHOD COSMIC RAY NEUTRONS
RADIATION ATMOSPHERE (TERRESTRIAL)

07047 A STUDY OF LOW ENERGY GALACTIC COSMIC RAYS
FROM 1961 TO 1965. ATMOSPHERE (TERRESTRIAL)
DEUTERIUM COSMIC RAY NEUTRONS PRODUCTION RATE
COSMIC RADIATION

COUNTERS

06947 MESSGERAET FUER TRITIUM (MEASUREMENT DEVICE
FOR TRITIUM). PROPORTIONAL COUNTER COUNTERS
RADIATION MEASUREMENT DOSIMETRY CONTAMINATION

06950 DETECTION DES CONTAMINATIONS DE SURFACE
(DETECTION OF SURFACE CONTAMINATIONS). RADIATION
PROPORTIONAL COUNTER COUNTERS MEASUREMENT
SURFACE CONTAMINATION CONTAMINATION
LIQUID SCINTILLATION COUNTING BETA RADIATION

COWS

06275 BODY WATER TURNOVER IN CATTLE WITH
PARASITIC GASTROENTERITIS.
PARASITIC DISEASES (WORMS) BODY WATER
BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS
DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS
BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY
CATTLE USING TRITIATED WATER. BODY WATER
BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS
LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS
FOODS TRITIATED WATER

06466 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR
PROJECT SCHOONER. NUCLEAR EXPLOSIONS
DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS
FALLOUT COWS LIVESTOCK MAMMALS SAMPLING
INGESTION INHALATION PROJECT SCHOONER
RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM
SOILS

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS
LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES
ALIMENTEES AVEC DE L'EAU CONTAMINEE. (TRANSFER
AND DISTRIBUTION OF TRITIUM AMONG THE MAIN
COMPONENTS OF MILK PRODUCED BY COWS HAVING
INGESTED CONTAMINATED WATER.) TRITIATED WATER
TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS
DOMESTIC ANIMALS LIVESTOCK BODY WATER
SPECIFIC ACTIVITIES PHYSIOLOGY

07097 RAPPORT D'ACTIVITE; SEPTEMBRE 1967.
(REPORT OF ACTIVITIES; SEPTEMBER 1967.)
RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER
MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95
RU-103 RH-106 I-131 CS-137 BA-140
THYROID GLAND BONE FISH SEA WATER COWS
LIVESTOCK

CO-57

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-161 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

CO-58

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-161 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

CO-60

00038 DISTRIBUTION OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS. NUCLEAR EXPLOSIONS NUCLEAR TESTING UNDERGROUND NUCLEAR TESTING SR-90 CO-60 SOILS TRANSPORT MOVEMENT FLOWSHARE PROGRAM

04086 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY. CO-60 ACCIDENTS ELIMINATION HALF-LIFE MAN BIOLOGICAL HALF-LIFE RADIATION EXPOSURE RADIATION DOSE

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH

RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-2 U-238 K-40 NEW YORK AIR

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

CRASSOSTREA

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS REPORT, 1968-1969. Y-90 SR-90 CRASSOSTREA OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

CRATER LAKE

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT LAKE TAHOE NEVADA TEST SITE CS-137 SR-90 CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES RAINFALL SURFACE WATERS

06966 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT FALLOUT CRATER LAKE LAKES SR-90 CS-137 TEMPERATURE PROFILES CONCENTRATION SOILS SEDIMENTS

CRATERING

06935 RESULTS FROM SEDAN POSTSHOT DRILLING. SEDAN UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION RADIATION NEVADA TEST SITE NUCLEAR CRATERS FLOWSHARE PROGRAM

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HQ-203 MAN FOOD-CHAINS DOSE ESTIMATION

07156 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

CROPS

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS. C-14 SOYBEANS CROPS LEGUMES PLANTS GROWTH RADIATION EFFECTS

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION METABOLISM KIDNEY BEANS BEANS PH CROPS LEGUMES PLANTS VEGETABLES RETENTION LIGHT TRITIUM OXIDE TRITIUM GAS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES SUGARS TRITIATED WATER

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14. P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN PLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

CR-51

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS SR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL

REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07095 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT JULY- DECEMBER 1969. CONCENTRATION GROUND WATER CR-51 HANFORD PROJECT NITRATE IONS RU-106

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. CONCENTRATION COLUMBIA RIVER HANFORD PROJECT P-32 ENVIRONMENTAL MONITORING CR-51 ZN-65 I-131 SR-90

CS-134

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

CS-136

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

CS-137

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF INTERNAL EMITTERS. BODY MAN PLUTONIUM SR-90 CS-137 ZN-65 GA-72 P-32

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PE-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT LAKE TAHOE NEVADA TEST SITE CS-137 SR-90 CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES RAINFALL SURFACE WATERS

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN PLOWSHARE PROGRAM NEVADA TEST SITE

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION SR-90 RU-106 CONTAMINATION GROUND WATER TC-99 RADIOACTIVE DECAY CS-137 LEACHING

06606 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER CONTAMINATION RADIATION HANFORD PROJECT RADIOACTIVE WASTE DISPOSAL BETA RADIATION RH-RU-106 WASTE DISPOSAL AQUIFERS SR-90 CS-137

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS. RADIOACTIVE WASTE DISPOSAL GLASS LEACHING SR-90 CS-137 SOILS SAND GROUND WATER

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06653 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CE-141 CE-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06681 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06682 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1966. PLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 QD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239

I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. FALLOUT CRATER LAKE LAKES SR-90 CS-137 TEMPERATURE PROFILES CONCENTRATION SOILS SEDIMENTS

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-46 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY PLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

CS-137/MN-54 RATIO

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER. LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE DISTRIBUTION RAINFALL DEPTH EFFECTS PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION PLOWSHARE PROGRAM NEVADA TEST SITE

CZECHOSLOVAKIA

07168 VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) SNOWPACK CZECHOSLOVAKIA SNOW RAINFALL WATER BALANCE

CULTURE MEDIUM

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE TRITIATED WATER MAMMALIAN CELLS CELLS CULTURE MEDIUM DOSE RATES RADIATION RADIATION EFFECTS GROWTH RATE

C-13

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18 WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

C-14

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM. C-14 CARBON DIOXIDE NUCLEAR TESTING STRATOSPHERE PANAMA CANAL ZONE RADIOBIOLOGY

CURRENTS

06951 LE TRITIUM UTILISE COMME TRACEUR EN GEOPHYSIQUE (TRITIUM USED AS A TRACER IN GEOPHYSICS). TRACERS GEOPHYSICS CURRENTS UNDERGROUND WATER CIRCULATION SURFACE WATER CIRCULATION

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-36 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

CUTANEOUS PENETRATION

06874 THE MAXIMUM PERMISSIBLE CONCENTRATION OF GASEOUS TRITIUM IN THE AIR OF WORKING PREMISES. TRITIUM OXIDE TRITIATED WATER MAXIMUM PERMISSIBLE CONCENTRATION CUTANEOUS PENETRATION

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 P-32 RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

CU-64

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER. MEASUREMENT C-14 RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY RADIOACTIVE AGE DETERMINATION AGE GROUND WATER AQUIPERS

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

06193 C-14 OCH TRITIUM ISOTOPERNAS FOERREKOMST OVER SKANDINAVIEN UNDER SENARA AR MED TILLAEMPENING INOM MARKLAERA OCH HYDROLOGI (THE OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND HYDROLOGY). C-14 SCANDINAVIA HYDROLOGY FALLOUT SURFACE WATERS GROUND WATER MONITORING

CYCLING

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06210 DATING OF GROUNDWATER WITH TRITIUM AND C-14. RADIOACTIVE AGE DETERMINATION C-14 GROUND WATER SOIL MOISTURE MODELS

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS. C-14 SOYBEANS CROPS LEGUMES PLANTS GROWTH RADIATION EFFECTS

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES. ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS SURFACE WATERS CIRCULATION MIXING ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

CYSTAMINE

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

06233 WATER TRACING IN THE HYDROLOGIC CYCLE.

O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

CYTOTOXIC EFFECTS

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14.
P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS
VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINE DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

06384 APPROACHES TO THE CALCULATION OF LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL PURPOSES. NUCLEAR EXPLOSIONS EXPLOSIONS KR-85 C-14 MATHEMATICAL ANALYSIS ANALYSIS MAXIMUM PERMISSIBLE CONCENTRATION

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY RADIATION EFFECTS

06401 SIMPLIFIED SOLID-STATE SCINTILLATION COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN BIOLOGICAL AND ORGANIC MATERIALS. C-14 CL-36 RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS SCINTILLATION COUNTING TRITIATED COMPOUNDS

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS. C-14 TREES PLANTS RAINWATER TROPOSPHERE ATMOSPHERE (TERRESTRIAL) STRATOSPHERE GROWTH RINGS CONCENTRATION

06427 MEASUREMENT OF S PERIOD IN GROWING CELL POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE LABELING WITH H-3- AND C-14-THYMIDINE. C-14 TAGGING GROWTH THYMIDINE AMINO ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS FLOWSHARE PROGRAM KR-85 XB-133 AR-37 C-14 VEGETATION PROJECT RULISON

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELLED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DNA DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06441 PATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER. PATTY ACIDS ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER BIOCHEMISTRY

06460 NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS. C-14 KR-85 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES PLANTS RAINWATER CONCENTRATION

06470 CARBON-14, TRITIUM, AND PLUTONIUM-239 IN MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968. C-14 PU-239 MILK DAIRY PRODUCTS FOODS DIETS CONCENTRATION

06482 RADIOCARBON DATING. RADIOACTIVE AGE DETERMINATION C-14 DISTRIBUTION

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF

RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06630 REPORT ON THE WORK OF THE INSTITUTE OF NUCLEAR SCIENCES, ANNUAL REPORT NO 4, MARCH L, 1961 - FEBRUARY 28, 1962. RADIOACTIVE AGE DETERMINATION EQUIPMENT C-14 FALLOUT

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING ENVIRONMENTAL RADIATION RADIATION PRECIPITATION (METEOROLOGICAL) GROUND WATER SAMPLING METEOROLOGY C-14 SI-32

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE. C-14 DNA MICE TUMORS CARCINOGENIC EFFECTS RETENTION TRITIATED THYMIDINE RADIATION EFFECTS

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC RESERVOIRS. AR-37 AR-39 C-14 RADIATION RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION KRYPTON XENON

06804 TRANSFER OF RADIOACTIVE WATER, URBA AND GLYCINE BETWEEN MATERIAL AND POSTAL BODY FLUIDS IN RABBITS AND PIGS. C-14 UREA GLYCINE PERITONEUM PIGS RABBITS ALLANTOIC SAC TRITIATED WATER TRANSFER BODY FLUIDS TRITIATED WATER

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND CHEMICAL ANALYTICAL RESULTS. KR-85 AR-37 AR-39 OXIDES PROJECT GASBUGGY CONCENTRATION C-14 TRITIATED WATER

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18 WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

06849 CALCULATION OF LOW-ENERGY NEUTRON FLUX IN THE ATMOSPHERE BY THE S SUB N METHOD. C-14 NEUTRON FLUX SN METHOD COSMIC RAY NEUTRONS RADIATION ATMOSPHERE (TERRESTRIAL)

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED FOLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

06856 ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER. TRITIATED HYDROGEN TRITIATED WATER TRITIATED METHANE C-14 ATMOSPHERIC NUCLEAR TESTING TRITIATED COMPOUNDS STRATOSPHERE

06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90. SOVIET NUCLEAR TESTS TROPOSPHERIC EXCHANGE TROPOSPHERE SR-90 C-14 ATMOSPHERE (TERRESTRIAL) MIXING

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS. FALLOUT C-14 ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY BETA RADIATION GAMMA RADIATION

06969 TRANSFER OF CARBON 14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN. C-14 STRATOSPHERE TROPOSPHERE TRANSFER OCEANS THERMOCLINE RATE CONSTANTS NUCLEAR EXPLOSIONS

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07010 A COMPARISON OF H-3- AND C-14-GLUCOSE METABOLISM IN THE INTACT RAT. TRITIATED GLUCOSE TRITIATED COMPOUNDS METABOLISM RATS RODENTS C-14

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN DIETS WATER ORGANS MONITORING NETWORKS AIRBORNE PARTICULATES

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY PLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS PLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY PLOWSHARE PROGRAM PLARING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

07124 PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE. GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY TRACERS CELLULAR METABOLISM TOXICITY GENETIC EFFECTS RADIATION EFFECTS

07128 EFFET LETAL DE LA DESINTEGRATION D ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORES DANS UNE BACTERIE. (LETHAL EFFECT ON BACTERIUM OF DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32). C-14 P-32 RADIOACTIVE DECAY RADIATION EFFECTS BACTERIA MICROORGANISMS GENETIC EFFECTS LETHALITY

07141 A NEW PROCEDURE OF LIQUID-SCINTILLATION COUNTING IN PLASTIC BAGS FOR H-3, C-14 AND P-32 IN BIOLOGICAL MATERIALS. LIQUID SCINTILLATION COUNTING C-14 P-32 RADIOASSAY BIOLOGICAL MATERIALS

07154 THE PRODUCTION OF TRITONS AND C-14 IN THE TERRESTRIAL ATMOSPHERE BY SOLAR PROTONS. TRITON C-14 ATMOSPHERE (TERRESTRIAL) SOLAR PROTONS SOLAR FLARES PRODUCTION RATE

07171 CONTRIBUTION DES MESURES ISOTOPIQUES A L ETUDE DE LA FONTAINE DE VAUCLUSE. (CONTRIBUTION OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE FONTAINE DE VAUCLUSE.) C-14 SPRINGS HYDROLOGY FRANCE

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. C-14 GROUND WATER AQUIFERS HYDROLOGY RECHARGE HYDROLOGIC MODELS MODELS SOUTH AFRICA

C-14 LABELLED COMPOUNDS

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

DAIRY PRODUCTS

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06470 CARBON-14, TRITIUM, AND PLUTONIUM-239 IN MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968. C-14 PU-239 MILK DAIRY PRODUCTS FOODS DIETS CONCENTRATION

06996 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTES AVEC DE L EAU CONTAMINEE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07159 RADIATION SURVEILLANCE NETWORKS. ENVIRONMENTAL MONITORING MILK DAIRY PRODUCTS FOODS RADIOACTIVITY PU-238 MONITORING NETWORKS

DAVIDSON CLAY

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

DECOMPOSITION REACTIONS

06283 THE RADIATION CHEMISTRY OF WATER VAPOR, THE INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF D-ATOMS WITH WATER MOLECULES. DECOMPOSITION REACTIONS DEUTERIUM WATER VAPOR GASES RADIOLYSIS RADIOCHEMISTRY EXCHANGE

DECONTAMINATION

06436 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06794 FISSION PRODUCT TRITIUM IN FUEL REPROCESSING WASTES. URANIUM FISSION RADIOLOGICAL HAZARDS RADIOACTIVE WASTES TRITIUM OXIDE DECONTAMINATION CONCENTRATION TRITIUM GAS RADIOACTIVE WASTE DISPOSAL FISSION PRODUCTS

06807 MANAGEMENT OF FISSION PRODUCT TRITIUM IN FUEL PROCESSING WASTES. RECYCLING DECONTAMINATION SURFACE WATERS GROUND WATER NUCLEAR FUEL PLANTS RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06823 POSSIBLE TECHNIQUES FOR DECONTAMINATION OF NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR EXPLOSION. TRITIATED METHANE TRITIATED ETHANE DECONTAMINATION EXCHANGE REACTIONS GAS WELLS NATURAL GAS KR-85

06949 L INTERVENTION ET LA DECONTAMINATION DU MATERIEL CONTAMINE AU TRITIUM (INTERVENTION AND DECONTAMINATION OF MATERIAL CONTAMINATED WITH TRITIUM). INTERVENTION DECONTAMINATION

07073 CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE RADIOLOGICAL SAFETY REPORT. CARLSBAD ROLL-UP PROGRAM PLOWSHARE PROGRAM CONTAMINATION SOIL CONTAMINATION DECONTAMINATION NEW MEXICO RADIOACTIVE WASTES

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07116 MEANS OF DETECTING AND PROTECTING AGAINST TRITIUM. ATMOSPHERIC TRITIUM CONTAMINATION INSTRUMENTS DETECTION DIFFUSION DECONTAMINATION

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL I-131 PU-239

DEER

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

DEPOSITION

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. SR-90 DISTRIBUTION DEPOSITION FALLOUT SAMPLING ATMOSPHERE (TERRESTRIAL) HTO/SR-90 RATIO

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL

DISTRIBUTION METEOROLOGY MODELS
SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06244 STRATOSPHERIC TRITIUM (STRATOSPHERIC TRITIUM). PRECIPITATION (METEOROLOGICAL) RAINOUT GERMANY TROPOSPHERE MODELS STRATOSPHERE WASHOUT DEPOSITION

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968. BIOLOGY AND HEALTH PHYSICS DIVISION. ATMOSPHERE (TERRESTRIAL) CANADA RIVERS GROWTH RINGS SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS DEPOSITION STRATOSPHERE TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL ALTITUDES. TRITIATED WATER ICE SEASONAL VARIATIONS SNOW CONCENTRATION DEPOSITION MT. EVEREST RADIOACTIVE AGE DETERMINATION

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL NET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

DEPTH

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL FIELD STUDIES. TRITIATED WATER TRANSPIRATION TREES PLANTS TRACERS ABSORPTION SOIL MOISTURE DEPTH

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES. ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS SURFACE WATERS CIRCULATION MIXING ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II
SOIL AND EJECTA STUDIES.
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS SOIL MOISTURE
PERIODIC VARIATIONS SEDAN SOILS EJECTA
RAINFALL DEPTH PLOWSHARE PROGRAM
NEVADA TEST SITE

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER.
LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE
DISTRIBUTION RAINFALL DEPTH EJECTA
PRECIPITATION (METEOROLOGICAL)
VERTICAL DISTRIBUTION PLOWSHARE PROGRAM
NEVADA TEST SITE

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND
GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY
TRITIUM TRACING. TRACERS ROCK QUERCUS
FAGACEAE PLANTS TREES ROOTS GROUND WATER
ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER
HYDROGEOLOGY

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER.
PRECIPITATION (METEOROLOGICAL)
NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN
SURFACE WATERS RESIDENCE TIME DEPTH
SPECIFIC ACTIVITIES

06370 CONTRIBUTION OF TRITIATED WATER AT VARIOUS
DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.
SOIL MOISTURE EVAPOTRANSPIRATION TRITIATED WATER
EVAPORATION DEPTH

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON
AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS
ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN PLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT
SYSTEM. SAMPLING TRITIATED WATER
SPECIFIC ACTIVITIES SEA WATER SALINITY
TEMPERATURE THERMOCLINE MIXING TRANSPORT
ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS
EQUATORIAL CURRENTS

07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969)
GEOSCS INTERCALIBRATION STATION.
NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS
CONCENTRATION DEPTH MIXING

07035 GENERAL SUMMARY OF PROGRESS (ON
OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS
SARGASSO SEA OCEANS SR-90 FALLOUT
ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION
DEPTH ACTIVATION ANALYSIS

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS
DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.
TRITIATED WATER TRITIATED WATER VAPOR
SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION
ATMOSPHERE (TERRESTRIAL) SOILS LOAM

DES PLAINES RIVER

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE
NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL
SUMMARY, 1968. RIVERS WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41
ILLINOIS RIVER DES PLAINES RIVER
ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE
NATIONAL LABORATORY; REPORT FOR 1964.
ENVIRONMENTAL MONITORING
ARGONNE NATIONAL LABORATORY RADIOACTIVITY
AIR MONITORING MONITORING CONTAMINATION
SAWMILL CREEK DES PLAINES RIVER RIVERS
RADIOACTIVE WASTES SR-90 TRITIATED WATER
ALPHA RADIATION BETA RADIATION SR-89 BA-140
CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM
SURFACE WATERS VEGETATION SOILS

DESERTS

06993 THE EFFECT OF TRITIATED THYMIDINE ON
MORTALITY AND TUMOR INCIDENCE IN MICE.
TRITIATED THYMIDINE TRITIATED COMPOUNDS
RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA
MICE RODENTS MAMMALS 06994 DATING DESERT GROUND
WATER. C-14 RAINFALL
PRECIPITATION (METEOROLOGICAL)
RADIOACTIVE AGE DETERMINATION GROUND WATER
DESERTS SAUDI ARABIA

DESTRUCTIVE FACTORS

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON
HILDA 1964 AND BETSY 1965. DESTRUCTIVE FACTORS
WATER VAPOR SEA WATER SALT WATER STORMS
HURRICANES GASES CONCENTRATION

07016 HURRICANE TRITIUM III; EVAPORATION OF SEA
WATER IN HURRICANE FAITH 1966. TRITIATED WATER
HURRICANES DESTRUCTIVE FACTORS EVAPORATION
SEA WATER RADIAL DISTRIBUTION RAINFALL
DISTRIBUTION EQUATIONS METEOROLOGY

DETECTION

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN
LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN
AIR AND WATER). DETECTION RADIATION
WATER VAPOR METHANE ORGANIC GASES
PROPORTIONAL COUNTER MONITORING BETA RADIATION
HYDROGEN

06960 TRITIUM DETECTION AND MEASUREMENT; A
BIBLIOGRAPHY. MEASUREMENT DETECTION
BIBLIOGRAPHY

07102 A RELATION BETWEEN PROTIUM/TRITIUM AND
PROTIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM
ISOTOPE EFFECT 07103 CONTRIBUTION A L ETUDE DES
NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM
HAZARDS.) RADIOLOGICAL HAZARDS DETECTION
TRANSFER AQUIPERS ABSORPTION INHALATION
DOSIMETRY RADIOBIOLOGY WATER VAPOR

07116 MEANS OF DETECTING AND PROTECTING AGAINST
TRITIUM. ATMOSPHERIC TRITIUM CONTAMINATION
INSTRUMENTS DETECTION DIFFUSION DECONTAMINATION

DEUTERIUM

04136 DER ANSTIEG DES TRITIUMGEHALTES IN
ATMOSPHAERISCHEN WASSERSTOFF SEIT 1960 (INCREASE
IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN
SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION
MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
TROPOSPHERE MIXING RETENTION

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY
GROWING CHLORELLA PYRENOIDOSA CELLS. METABOLISM
CHLORELLA ALGAE CHLOROPHYTA PLANTS DEUTERIUM
TRACERS

06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED
BY MEANS OF HYDROGEN ISOTOPES. MOVEMENT
SOIL MOISTURE TRACERS SOILS EVAPOTRANSPIRATION
DEUTERIUM

06233 WATER TRACING IN THE HYDROLOGIC CYCLE.
O-18 C-14 TRACERS TRANSPORT ASIA
HYDROLOGICAL CYCLING MOVEMENT CIRCULATION
DISTRIBUTION FALLOUT GROUND WATER
EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS PERIODIC VARIATIONS
NORTH AMERICA SOUTH AMERICA EUROPE
MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS
DEUTERIUM

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN
SOIL WATER. FRACTIONATION SOIL MOISTURE
DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION
TRACERS GROUND WATER SURFACE WATERS CLAYS
SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE
ISOTOPE EXCHANGE MONTMORILLONITE

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN
NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL
CIRCULATION OF WATER.
PRECIPITATION (METEOROLOGICAL)
VERTICAL DISTRIBUTION METEOROLOGY SEA WATER
O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION
DISTRIBUTION RAINWATER SALT WATER WATER VAPOR
GASES DEUTERIUM

06241 ISOTOPIC COMPOSITION OF ATMOSPHERIC
HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN
GASES DEUTERIUM GERMANY

06246 THE PRODUCTION RATE OF NATURAL TRITIUM.
PRECIPITATION (METEOROLOGICAL) NORTH AMERICA
TROPOSPHERE STRATOSPHERE RESIDENCE TIME
COSMIC RADIATION RADIATION NUCLEAR TESTING
TRANSPORT WATER VAPOR GASES DEUTERIUM
PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06249 ISOTOPE EFFECTS IN MIXTURES OF LIQUID H2O
AND T2O. EQUILIBRIUM CONSTANTS WATER DEUTERIUM

06259 TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC
METHANE. ATMOSPHERE (TERRESTRIAL) METHANE
GASES GERMANY DEUTERIUM INDIANA

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. FRACTIONATION DEUTERIUM BIOLOGICAL SYSTEMS RATS MAMMALS RODENTS T/D RATIO BODY WATER

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS TISSUES DEUTERIUM T/D RATIO

06343 METABOLISM OF HYDROGEN ISOTOPES BY ALGAE. METABOLISM ALGAE PLANTS DEUTERIUM

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE. CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM METABOLISM

06402 TRITIUM IN NATURE. SURFACE WATERS NORWAY COSMIC RADIATION HE-3 RADIATION DEUTERIUM

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06433 BIOLOGICAL APPLICATIONS OF TRITIUM. RADIOACTIVE TRACERS TRACERS BETA RADIATION RADIATION BIOLOGICAL SYSTEMS DEUTERIUM METABOLISM BIOLOGICAL HALF-LIFE

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER. FATTY ACIDS ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER BIOCHEMISTRY

06611 MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND O-18 THROUGH ACIDIC KAOLINITIC SOIL. O-18 TRACERS WATER SOILS DEUTERIUM MOVEMENT

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW AT THE SAVANNAH RIVER PLANT. GROUND WATER SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT TRACERS TRITIATED WATER MOVEMENT RADIOACTIVE WASTES

06632 SOME FACTORS INFLUENCING INTERPRETATION OF STUDIES OF BODY WATER AND ELECTROLYTES WITH ISOTOPIC TRACERS. TRACERS RADIOACTIVE TRACERS BODY WATER BIOLOGICAL EFFECTIVENESS DEUTERIUM CHLORIDES

06676 STOCKHOLM NATURAL TRITIUM MEASUREMENTS I. DEUTERIUM OCEANS BALTIC SEA PRECIPITATION (METEOROLOGICAL) RAINWATER

06891 BIO-ORGANIC CHEMISTRY QUARTERLY REPORT; SEPTEMBER-NOVEMBER 1961. DEUTERIUM MUTATIONS DROSOPHILA GENETIC EFFECTS RADIATION EFFECTS DIPTERA INSECTS

06893 TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN FALLOUT RH-102 TROPOSPHERE STRATOSPHERE DEUTERIUM NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS WATER EXCHANGE BARRIERS WATER BALANCE LUNGS SKIN BODY WATER GASTROINTESTINAL TRACT PHYSICAL PROPERTIES

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

06932 PROPRIETES PHYSIQUES MOLECULAIRES DES ISOTOPES DE L'HYDROGENE ET DE LEURS COMBINAISONS ISOTOPIQUES; ETUDE BIBLIOGRAPHIQUE (MOLECULAR AND PHYSICAL PROPERTIES OF THE HYDROGEN ISOTOPES AND OF THEIR ISOTOPIC COMBINATIONS; BIBLIOGRAPHICAL COMPILATION). DEUTERIUM MOLECULAR PROPERTIES BIBLIOGRAPHY PHYSICAL PROPERTIES

06934 TRITIUM (H-3); A BIBLIOGRAPHY OF UNCLASSIFIED LITERATURE. DEUTERIUM BIBLIOGRAPHY NUCLEAR PROPERTIES PHYSICAL PROPERTIES TRACERS

06938 TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER. DEUTERIUM HYDROGEN RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06968 COSMIC-RAY PRODUCTION OF DEUTERIUM AND TRITIUM IN THE EARTH'S ATMOSPHERE. COSMIC RADIATION PRODUCTION RATE ATMOSPHERE (TERRESTRIAL) DEUTERIUM RADIATION

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. WATER VAPOR METHANE ATMOSPHERIC HYDROGEN CONCENTRATION STRATOSPHERE DEUTERIUM SPECIFIC ACTIVITIES

07013 TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN SPECIFIC ACTIVITIES ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING AIR

07017 NEW TRITIUM AND DEUTERIUM MEASUREMENTS IN ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN CONCENTRATION ATMOSPHERIC NUCLEAR TESTING

07018 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. DEUTERIUM CONCENTRATION ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PERIODIC VARIATIONS

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE CRITICAL POINT OF HYDROGEN, DEUTERIUM, AND TRITIUM, AND THEIR DIATOMIC COMBINATIONS. DEUTERIUM HYDROGEN GASES VAPOR PRESSURE COEFFICIENTS TEMPERATURE CONSTANTS

07047 A STUDY OF LOW ENERGY GALACTIC COSMIC RAYS FROM 1961 TO 1965. ATMOSPHERE (TERRESTRIAL) DEUTERIUM COSMIC RAY NEUTRONS PRODUCTION RATE COSMIC RADIATION

07077 ENVIRONMENTAL ISOTOPE DATA NO. L; WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1953-1963). DEUTERIUM O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE AIR TEMPERATURE GLOBAL NETWORK MONITORING

07086 PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT; I. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN-WATER SYSTEM. NUCLEAR EXPLOSIONS EXPLOSIONS SALT MEDIUM ISOTOPE EXCHANGE EXCHANGE RATE DEUTERIUM WATER

07102 A RELATION BETWEEN PROTIUM/TRITIUM AND PROTIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECTS CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIFERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. TRACERS SOIL MOISTURE MOVEMENT EVAPOTRANSPIRATION RAINWATER DISPERSION DEUTERIUM ENRICHMENT SOILS

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA SURFACE WATERS PRECIPITATION (METEOROLOGICAL) HYDROLOGICAL CYCLING CONCENTRATION SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS ALASKA GREENLAND

07182 ENVIRONMENTAL ISOTOPE DATA NO 2. WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1964-1965). DEUTERIUM O-18 CONCENTRATION MONITORING PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE

DEUTERIUM OXIDE

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS TISSUES DEUTERIUM T/D RATIO

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. TRITIUM OXIDE RADIATION HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS NUCLEAR REACTORS

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

DIETS

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

06470 CARBON-14, TRITIUM, AND PLUTONIUM-239 IN MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968 C-14 PU-239 MILK DAIRY PRODUCTS FOODS DIETS CONCENTRATION

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968. BODY BURDEN BODY WATER DOSE EQUIVALENTS CHILDREN URINE CONCENTRATION SAMPLING NETWORKS DIETS UNITED STATES

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN DIETS WATER ORGANS MONITORING NETWORKS AIRBORNE PARTICULATES

DIFFUSION

05051 SOME SECOND THOUGHTS ON TRITIUM CONTAMINATION. CONTAMINATION RADIOACTIVITY GASES DIFFUSION WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL TRITIUM GAS RADIOLOGICAL HAZARDS

05105 TRITIUM ET BAU TRITIEE- DUREES LIMITES DEXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU REMOUELOE (TRITIUM AND TRITIATED WATER- TIME LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR REGENERATED ATMOSPHERES). CONTAMINATION ACCIDENTS ABSORPTION EQUATIONS MATHEMATICS TISSUES DIFFUSION TRITIATED WATER

06273 DIFFUSION OF TRITIATED WATER IN SOILS. DIFFUSION SOILS TRACERS CLAYS DIFFUSION COEFFICIENT TRITIATED WATER

06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. DIFFUSION MONTMORILLONITE KAOLINITE TRACERS CLAYS SEDIMENTS SOILS DIFFUSION COEFFICIENT TRITIATED WATER

06385 STUDYING THE DIFFUSION OF AQUEOUS VAPOURS IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM. RADIOACTIVE TRACERS TRACERS DIFFUSION

WATER VAPOR GASES ORGANIC COMPOUNDS POLYMERS

06613 DIFFUSION OF TRITIATED MOISTURE FROM A STREAM. STREAMS ATMOSPHERE (TERRESTRIAL) MOISTURE DIFFUSION RADIOACTIVE WASTE DISPOSAL TRITIATED WATER VAPOR RADIOACTIVE WASTES

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN RESPIRATORY TRACT BODY FLUIDS TRITIATED WATER VAPOR

06886 RADIAL EXCHANGE OF LABELED WATER IN INTACT MAIZE ROOTS. TRITIATED WATER ROOTS CORTEX ENDODERMIS METABOLISM DIFFUSION COEFFICIENT DIFFUSION UPTAKE

06900 A STUDY OF THE DIFFUSION AND MIXING OF TRITIUM GAS IN AIR. ATMOSPHERE (TERRESTRIAL) DIFFUSION MIXING TRITIUM GAS

06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER. DEUTERIUM HYDROGEN RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06941 RISQUES PRESENTES PAR LA DIFFUSION DE GRANDES QUANTITES DE TRITIUM DANS L'ATMOSPHERE (DANGERS PRESENTED BY THE DIFFUSION OF LARGE QUANTITIES OF TRITIUM IN THE ATMOSPHERE). HYDROGEN DIFFUSION DIFFUSION ISOTOPIC DIFFUSION ISOTOPE EXCHANGE WATER VAPOR MAXIMUM PERMISSIBLE CONCENTRATION

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER FLOWSHARE PROGRAM MOVEMENT CONTAMINATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS TRANSPORT GASES DIFFUSION KR-85 DIFFUSION EQUATION EQUATIONS

07116 MEANS OF DETECTING AND PROTECTING AGAINST TRITIUM. ATMOSPHERIC TRITIUM CONTAMINATION INSTRUMENTS DETECTION DIFFUSION DECONTAMINATION

DIFFUSION COEFFICIENT

06273 DIFFUSION OF TRITIATED WATER IN SOILS. DIFFUSION SOILS TRACERS CLAYS DIFFUSION COEFFICIENT TRITIATED WATER

06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. DIFFUSION MONTMORILLONITE KAOLINITE TRACERS CLAYS SEDIMENTS SOILS DIFFUSION COEFFICIENT TRITIATED WATER

06850 DIFFUSION OF TRITIATED WATER (H-3 H-1 O-16) IN AGAR GEL AND WATER. TRITIATED WATER DIFFUSION COEFFICIENT AGAR GEL

06886 RADIAL EXCHANGE OF LABELED WATER IN INTACT MAIZE ROOTS. TRITIATED WATER ROOTS CORTEX ENDODERMIS METABOLISM DIFFUSION COEFFICIENT DIFFUSION UPTAKE

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

DIFFUSION EQUATION

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER FLOWSHARE PROGRAM MOVEMENT CONTAMINATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS TRANSPORT GASES DIFFUSION KR-85 DIFFUSION EQUATION EQUATIONS

DIFFUSIVITY VALUES

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL TRITIATED WATER SOILS RAINFALL LEACHING SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DISTRIBUTION

DILUTION

06813 WASTE DISPOSAL DILUTION DISTILLATION RECYCLING PUEL PROCESSING RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY - GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. NATURAL GAS CONTAMINATION FLOWSHARE PROGRAM KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS FLUSHING DILUTION PROJECT GASBUGGY

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. GROUND WATER CHLORIDES CONCENTRATION CIRCULATION DILUTION NEW ZEALAND MIXING TRITIATED WATER BORES GEOTHERMAL WATERS

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALEUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

DILUTION RATE

06846 ESTIMATION OF DILUTION RATE FACTORS FOR TRITIATED WATER VAPOUR FROM A REACTOR STACK. TRITIATED WATER NUCLEAR REACTORS DILUTION RATE WATER VAPOR

DILUTION RATE FACTORS

07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM AECL REACTOR STACK. SNOW PRECIPITATION (METEOROLOGICAL) TRITIUM OXIDE CANADA SPECIFIC ACTIVITIES DILUTION RATE FACTORS NUCLEAR REACTORS

DIPTERA

06691 BIO-ORGANIC CHEMISTRY QUARTERLY REPORT; SEPTEMBER-NOVEMBER 1961. DEUTERIUM MUTATIONS DROSOPHILA GENETIC EFFECTS RADIATION EFFECTS DIPTERA INSECTS

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

DISEASES

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

DISPERSION

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE. PERCH LAKE CANADA LAKES TRITIATED WATER RADIOACTIVE WASTE DISPOSAL CONCENTRATION MIXING DISPERSION

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. TRACERS SOIL MOISTURE MOVEMENT EVAPOTRANSPIRATION RAINWATER DISPERSION DEUTERIUM ENRICHMENT SOILS

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIÉE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

DISSOCIATION

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE. THERMODYNAMICS HEAT CAPACITY ENTROPY ENERGY TRITIUM HYDRIDE RADIOACTIVITY DISSOCIATION THERMODYNAMIC EQUILIBRIUM

DISSOCIATION ENERGY

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

DISTILLATION

06355 SEPARATION FACTOR OF TRITIATED WATER FRACTIONAL IN DISTILLATION. SEPARATION FACTOR SEPARATION TECHNIQUES TRITIATED WATER DISTILLATION

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. CONTAMINATION RADIOACTIVE TRACERS TRACERS STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS TRITIATED WATER ATMOSPHERE (TERRESTRIAL) DISTILLATION SCINTILLATION COUNTING

06813 WASTE DISPOSAL. DILUTION DISTILLATION RECYCLING FUEL PROCESSING RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

DISTORTED FLOW

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

DISTRIBUTION

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. SR-90 DISTRIBUTION DEPOSITION FALLOUT SAMPLING ATMOSPHERE (TERRESTRIAL) HTO/SR-90 RATIO

04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE SEDIMENTS AND MARINE ORGANISMS. SEA WATER SEDIMENTS MARINE BIOLOGY HALF-LIFE DISTRIBUTION CONCENTRATION RADIOACTIVITY ENVIRONMENTS

05088 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

05184 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06253 THE NATURAL DISTRIBUTION OF TRITIUM.
COSMIC RADIATION SURFACE WATERS RADIATION
DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES
WINES PRODUCTION RATE
PRECIPITATION (METEOROLOGICAL) T/H RATIO

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN
ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO
METEOROLOGY AND HYDROLOGY, FINAL REPORT.
PRECIPITATION (METEOROLOGICAL)
GAS PROPORTIONAL COUNTERS 0-18 EUROPE
MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN
PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS
DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT
SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE
TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY
DEUTERIUM

06266 TRITIUM DISTRIBUTION IN GROUND WATER AROUND
LARGE UNDERGROUND FISSION EXPLOSIONS.
UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS
NUCLEAR EXPLOSIONS GROUND WATER
FLOWSHARE PROGRAM DISTRIBUTION TRITIATED WATER

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER.
LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE
DISTRIBUTION RAINFALL DEPTH EJECTA
PRECIPITATION (METEOROLOGICAL)
VERTICAL DISTRIBUTION FLOWSHARE PROGRAM
NEVADA TEST SITE

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION
OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM
OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION
TISSUES RATS ORGANS RETENTION MAMMALS RODENTS
BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP
DOMESTIC ANIMALS LIVESTOCK DOSE RATES
WHOLE BODY EXPOSURE

06353 DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE
SOLAR ORIGIN OF NATURAL TRITIUM. DISTRIBUTION
MATHEMATICAL ANALYSIS ANALYSIS PRODUCTION RATE
NORTH AMERICA ATMOSPHERE (TERRESTRIAL)
COSMIC RADIATION

06366 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE
WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS
AND NICOTIANA. FLOWERING PLANTS WATER VAPOR
HELIANTHUS PLANTS NICOTIANA GASES TISSUES
MOVEMENT DISTRIBUTION TRITIATED WATER
TRANSPIRATION

06371 THE PERSISTENCE OF RADIONUCLIDES AT SITES
OF NUCLEAR DETONATIONS. NUCLEAR EXPLOSIONS
RADIOACTIVITY DISTRIBUTION NUCLEAR CRATERS
RETENTION

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM
IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS.
TISSUES GASES RATS MAMMALS RODENTS
WHOLE BODY EXPOSURE RADIATION EXPOSURE
TRITIUM GAS TRITIUM OXIDE DISTRIBUTION
RETENTION

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM
IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM
OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE
DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS
TRITIUM OXIDE RETENTION

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT
FOLLOWING EXPOSURE TO TRITIUM GAS. RATS MAMMALS
RODENTS ABSORPTION TRITIUM GAS TRITIUM OXIDE
DISTRIBUTION METABOLISM

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT
FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE.
GASES RATS MAMMALS RODENTS ABSORPTION
TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES
DISTRIBUTION METABOLISM ORGANS

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED
TRITIUM II. DISTRIBUTION COSMIC RADIATION
SURFACE WATERS RADIATION RAINFALL
PRECIPITATION (METEOROLOGICAL) TRITIATED WATER
SEA WATER FRESH WATER WINES

06424 THE BODY ABSORPTION, DISTRIBUTION, AND
EXCRETION OF TRITIUM IN MAN AND ANIMALS.
ABSORPTION DISTRIBUTION EXCRETION MAN GASES
MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS
TRITIATED WATER GASTROINTESTINAL TRACT SKIN
BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06482 RADIOCARBON DATING.
RADIOACTIVE AGE DETERMINATION C-14 DISTRIBUTION

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED
SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL
TRITIATED WATER SOILS RAINFALL LEACHING

SOIL MOISTURE PRECIPITATION (METEOROLOGICAL)
MATHEMATICAL MODELS DISTRIBUTION

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC
MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN
AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30
JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL)
SEA WATER SWEDEN NORWAY IRELAND ICELAND
BACKGROUND RADIATION DISTRIBUTION RADIATION
ENVIRONMENTAL RADIATION

06899 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JULY 1 TO SEPTEMBER
30, 1968. TRITIATED WATER SHALE DISTRIBUTION
THERMAL ANALYSIS CANE FLOWSHARE PROGRAM
CONTAMINATION OIL SHALE

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER
30, 1969. FLOWSHARE PROGRAM TRITIATED WATER
SHALE DISTRIBUTION CANE THERMAL ANALYSIS
NATURAL GAS HYDROGEN CONTAMINATION

06962 DER NATUERLICHE TRITIUMHAUSHALT DER ERDE
UND DIE FRAGE SEINER ZEITLICHEN VARIATION. (THE
NATURAL TRITIUM BALANCE OF THE EARTH AND THE
QUESTION OF ITS CHRONOLOGICAL VARIATION).
ATMOSPHERE (TERRESTRIAL) DISTRIBUTION
PERIODIC VARIATIONS WATER

06987 TRITIUM INJECTION AND CONCENTRATION
DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90
O-18 RADIOACTIVE TRACERS TRACERS MODELS
CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE
FALLOUT HYDROLOGY DISTRIBUTION
PRECIPITATION (METEOROLOGICAL)
ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE
MATHEMATICAL MODELS

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND
ITS OCCURRENCE IN ATMOSPHERIC METHANE.
DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE
ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE
TROPOSPHERE TRITIATED WATER MIXING
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM
NUCLEAR RADIATION PERIODIC VARIATIONS C-14

06976 RADIATION DOSES RESULTING FROM THE
ADMINISTRATION OF TRITIATED POLIC ACID AND
TRITIATED WATER TO THE RAT. TRITIATED WATER
TRITIATED COMPOUNDS TRITIATED POLIC ACID
DISTRIBUTION RETENTION RATS RODENTS MAMMALS
RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS
TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE
CONCENTRATION DOSE RATES

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT
IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS
FORESTS PUERTO RICO SURFACE WATERS SOILS
TRITIATED WATER WATER EXCHANGE TRANSPIRATION
TROPICS RESIDENCE TIME HYDROLOGY RAINOUT
DISTRIBUTION UPTAKE TREES

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON
AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS
ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN
1962 AND 1963. RAINOUT WASHOUT
SEASONAL VARIATIONS PERIODIC VARIATIONS
DISTRIBUTION UNITED STATES CONCENTRATION
PRECIPITATION (METEOROLOGICAL) SAMPLING
SAMPLING NETWORKS ALASKA PUERTO RICO

07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN
VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY
OF THE BASIN POURING FROM MONT CENIS.) LAKES
DISTRIBUTION FRANCE STRATIFICATION
PRECIPITATION (METEOROLOGICAL) TEMPERATURE
HYDROLOGY

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING
1966, 1967, AND 1968. RAINOUT FALLOUT
PRECIPITATION (METEOROLOGICAL) CONCENTRATION
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
DISTRIBUTION RAINFALL SAMPLING
SAMPLING NETWORKS

07016 HURRICANE TRITIUM III; EVAPORATION OF SEA
WATER IN HURRICANE FAITH 1966. TRITIATED WATER
HURRICANES DESTRUCTIVE FACTORS EVAPORATION
SEA WATER RADIAL DISTRIBUTION RAINFALL
DISTRIBUTION EQUATIONS METEOROLOGY

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPE PRODUCTION TRITIATED WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

07022 RESULTATS DE MESURES D ACTIVITEEN TRITIUM DE CERTAINES SAUX DU SUD-QUEST. (RESULTS OF TRITIUM ACTIVITY MEASUREMENTS OF SOME WATER OF SOUTHWEST.) RAINWATER LAKES VEGETABLES DISTRIBUTION FRANCE

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTEES AVEC DE L'EAU CONTAMINEE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS; SEVENTH PROGRESS REPORT. VERTICAL DISTRIBUTION DISTRIBUTION TROPOSPHERE CONCENTRATION WATER VAPOR EVAPOTRANSPIRATION MIXING ILLINOIS

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN PLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY PLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1963. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS RODENTS MAMMALS FATTY ACIDS RETENTION DISTRIBUTION

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA SURFACE WATERS PRECIPITATION (METEOROLOGICAL) HYDROLOGICAL CYCLING CONCENTRATION SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS ALASKA GREENLAND

DIURNAL VARIATIONS

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX., PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINEAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

06971 DAILY VARIATIONS IN THE TRITIUM

CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

DNA

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINE DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE PLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06603 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. THYMIDINE NUCLEIC ACIDS ORGANIC COMPOUNDS CELLS MAMMALS RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE DNA RADIATION EFFECTS MORTALITY

06637 EFFECTS OF INTRACELLULAR IRRADIATION WITH TRITIUM. CELLS RADIATION EFFECTS NUCLEIC ACIDS ORGANIC COMPOUNDS MUTATIONS TOXICITY DNA

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE. C-14 DNA MICE TUMORS CARCINOGENIC EFFECTS RETENTION TRITIATED THYMIDINE RADIATION EFFECTS

06801 STUDIES ON THE INCORPORATION OF TRITIATED THYMIDINE IN DESOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS. TRITIATED THYMIDINE MICE DNA LABELING SPECIFIC ACTIVITIES RADIATION EFFECTS METABOLISM

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. TRITIATED ACTINOMYCIN D ANTIBIOTICS OCCYTE NUCLEUS NUCLEUS NUCLEOLI DNA LABELING POLYPEPTIDES

06803 INCORPORATION OF (H-3) THYMIDINE INTO NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED MAMMALIAN CELLS. LIVER CELLS DNA NUCLEAR DNA MITOCHONDRIAL DNA TRITIATED THYMIDINE UPTAKE

06865 ON THE DIFFERENCE BETWEEN THE LETHAL EFFECTS OF H-3 AND P-32 IN BACTERIA. MORTALITY P-32 BACTERIA MICROORGANISMS DNA CELLS RADIATION EFFECTS MATHEMATICAL MODELS

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE PECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06952 CONCENTRATIONS MAXIMALES ADMISSIBLES POUR LE TRITIUM ET SES COMPOSES (MAXIMUM PERMISSIBLE CONCENTRATION FOR TRITIUM AND ITS COMPOUNDS). TRITIATED WATER TRITIATED HYDROGEN TRITIATED THYMIDINE DNA METABOLISM MAXIMUM PERMISSIBLE CONCENTRATION

07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. DNA TRITIATED THYMIDINE GENETIC EFFECTS BIOLOGICAL EFFECTS MUTATIONS RELATIVE BIOLOGICAL EFFECTIVENESS CELLS CELL NUCLEUS

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. LABELING TRITIATED THYMIDINE CHROMOSOMES DNA BIOLOGICAL EFFECTS RADIATION EFFECTS RETENTION GENETIC EFFECTS

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07088 THE EFFECTS OF TRITIUM DECAY ON DNA. PROGRESS REPORT FOR THE PERIOD 1 JANUARY-31 DECEMBER 1967. RADIOACTIVE DECAY DNA ESCHERICHIA BACTERIA MICROORGANISMS RADIATION EFFECTS RADIOSENSITIVITY

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07101 EVALUATION OF POTENTIAL HAZARDS FROM TRITIUM WATER. RADIOLOGICAL HAZARDS TRITIATED WATER BIOLOGICAL DOSE EQUIVALENTS EXCRETION CONCENTRATION ORGANS DNA GENETIC EFFECTS

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

DNA SYNTHESIS

06812 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM AFTER INCORPORATION OF H-3-THYMIDINE. TRITIATED THYMIDINE RABBITS CORNEAL ENDOTHELIUM ENDOTHELIAL CELLS ENDOTHELIUM DNA SYNTHESIS RETENTION

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

DOGS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINE DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE. TRITIUM OXIDE IMMUNOLOGICAL REACTIVITY DOGS MAMMALS RADIATION EFFECTS RADIATION DOSE BIOLOGICAL EFFECTS AUTO-ALLERGIC PROCESSES

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. TRITIUM OXIDE RADIATION EFFECTS TOXICITY BIOLOGICAL EFFECTS DOGS METABOLISM BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE EXCRETION

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

DOMESTIC ANIMALS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS

BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTÉES AVEC DE L'EAU CONTAMINÉE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

DOSE EQUIVALENTS

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968. BODY BURDEN BODY WATER DOSE EQUIVALENTS CHILDREN URINE CONCENTRATION SAMPLING NETWORKS DIETS UNITED STATES

06980 TRITIUM CONCENTRATIONS IN FOOD, 1967-1968. CONCENTRATION FOODS DOSE EQUIVALENTS CHILDREN UNITED STATES

07140 A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL. PROJECT GASBUGGY PLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY DOSE EQUIVALENTS RADIATION EXPOSURE KR-85 CONCENTRATION RADIOLOGICAL HAZARDS

DOSE ESTIMATION

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING RADIATION DOSE DOSE ESTIMATION GROUND WATER FALLOUT ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RADIOACTIVE WASTES

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06264 ESTIMATION OF WHOLE BODY DOSE (REM) FROM TRITIUM IN BODY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE BODY BURDEN URINE BODY WATER DOSE ESTIMATION

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

06346 AN APPROXIMATION OF RADIATION DOSE RESULTING FROM AN ACCIDENTAL RELEASE OF TRITIUM GAS. GASES DOSE ESTIMATION RADIATION ACCIDENTS TRITIUM GAS

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELLED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DNA DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06425 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06761 MEASUREMENT OF TRITIUM CONCENTRATION IN EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY BURDENS. URINE SAMPLING BREATH SAMPLING BODY BURDEN EXHALED WATER VAPOR DOSE ESTIMATION CONCENTRATION

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06843 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR TRITIATED WATER AND TRITIATED THYMIDINE. MAXIMUM PERMISSIBLE CONCENTRATION DOSE ESTIMATION TRITIATED WATER TRITIATED THYMIDINE BETA RADIATION RADIATION CONCENTRATION ABSORBED DOSE

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE

RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

07184 RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER REACTORS AND THE POPULATION. RADIATION EXPOSURE NUCLEAR POWER INDUSTRY NUCLEAR REACTORS NUCLEAR FUEL PLANTS DOSE ESTIMATION RADIOACTIVE WASTES MAN

DOSE RATES

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS AND THEIR BIOLOGICAL SIGNIFICANCE. CONTAMINATION RADIOACTIVITY FALLOUT DOSE RATES SAFETY MAN RADIATION EXPOSURE FRESH WATER

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD ELIMINATION TRITIATED WATER RADIATION DOSE DOSE RATES MAN

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. BODY BURDEN SAFETY RADIATION EXPOSURE DOSE RATES WASHOUT TRITIATED WATER KR-85

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE TRITIATED WATER MAMMALIAN CELLS CELLS CULTURE MEDIUM DOSE RATES RADIATION RADIATION EFFECTS GROWTH RATE

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06928 PROGRESS REPORT (ON THE USE OF TRITIATED THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN THE STUDY OF LATERAL ROOT INITIATION), 1965-1966. TRITIATED THYMIDINE TRITIATED WATER ROOTS SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES RADIATION EFFECTS

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

DOSIMETERS

06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. ATMOSPHERIC TRITIUM DOSIMETERS PHOTOGRAPHIC DOSIMETERS THERMOLUMINESCENT DOSIMETERS RADIOPHOTOLUMINESCENT DOSIMETERS MONITORING PERSONNEL MONITORING

DOSIMETRY

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

06423 ACTIVITIES OF AECL IN THE FIELDS OF BIOLOGY, HEALTH PHYSICS AND MEDICINE. MEDICINE BIOLOGY DOSIMETRY ENVIRONMENTAL RADIATION RADIATION SAFETY

06609 ANALYSIS OF EXTERNAL EXPOSURES IN 1966. RADIATION EXPOSURE WHOLE BODY EXPOSURE GAMMA RADIATION DOSIMETRY BETA RADIATION

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06947 NESSGERAET FUER TRITIUM (MEASUREMENT DEVICE FOR TRITIUM). PROPORTIONAL COUNTER COUNTERS RADIATION MEASUREMENT DOSIMETRY CONTAMINATION

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION TISSUES BODY WATER MAN RADIATION EXPOSURE

07102 A RELATION BETWEEN PROTIIUM/TRITIUM AND PROTIIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT 07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIPERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

07114 HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM. BIBLIOGRAPHY HEALTH HAZARDS ENVIRONMENTAL MONITORING DOSIMETRY GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS RADIATION EXPOSURE PHYSIOLOGY

DRAGON TRAIL

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

DROSOPHILA

06891 BIO-ORGANIC CHEMISTRY QUARTERLY REPORT; SEPTEMBER-NOVEMBER 1961. DEUTERIUM MUTATIONS DROSOPHILA GENETIC EFFECTS RADIATION EFFECTS DIPTERA INSECTS

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

DRY BOX SYSTEM

07144 REPAIRING A LARGE TRITIUM-CONTAMINATED SYSTEM. DRY BOX SYSTEM REPAIR GAS PURIFICATION SYSTEM CONTAMINATION RADIATION EXPOSURE MAN

DUCKS

06869 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). TRITIATED WATER DUCKS ABSORPTION BIRDS PLASMA

DYES

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS

MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCENCE 1-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

06586 TRACER MEASUREMENT OF STREAM REABRATON. RADIOACTIVE TRACERS EXCHANGE REACTIONS REABRATON DYES KR-85 JACKSON RIVER

D/H RATIO

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

EARTHQUAKES

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALBERTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

ECOLOGY

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

ECOSYSTEMS

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS ACCUMULATION ECOSYSTEMS 06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS CONCENTRATION SOILS DEPTH

EDTA

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

EFFECTIVE HALF-LIFE

05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT. HALF-LIFE EFFECTIVE HALF-LIFE ASSIMILATION MAN BIOLOGICAL HALF-LIFE TEMPERATURE WEIGHT AGE

06889 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1962. BIOLOGICAL HALF-LIFE TRITIATED WATER MAN BODY WEIGHT AGE TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE BIOASSAY

EFFLUENT AIR

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. TRITIATED WATER VAPOR RADIOACTIVE TRACERS TRACERS NUCLEAR FUEL PLANTS STACK DISPERSION RADIOACTIVE WASTES EFFLUENT AIR LIQUID SCINTILLATION COUNTING

EFFLUENTS

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR. LI-7 NUCLEAR REACTORS
COOLANT ADDITIVES B-10 SAN ONOFRE REACTOR
SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR
COMPUTER PROGRAMS

EJECTA

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II
SOIL AND EJECTA STUDIES.
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS SOIL MOISTURE
PERIODIC VARIATIONS SEDAN SOILS EJECTA
RAINFALL DEPTH FLOWSHARE PROGRAM
NEVADA TEST SITE

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER.
LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE
DISTRIBUTION RAINFALL DEPTH EJECTA
PRECIPITATION (METEOROLOGICAL)
VERTICAL DISTRIBUTION FLOWSHARE PROGRAM
NEVADA TEST SITE

07131 POSTSHOT DISTRIBUTION AND MOVEMENT OF
RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181
DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER
NUCLEAR CRATERS NUCLEAR TESTING EJECTA
CONCENTRATION RAINFALL SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54
NB-95 CO-58 Y-88

EL VERDE

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY
FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC
CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE
RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO
CONSIDERATION OF TRITIUM METABOLISM. WITH
APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL
FORMULATION OF THE HYDROGEN BUDGET MODEL.
PUERTO RICO EL VERDE RAINFORESTS STORAGE
CYCLING TRANSLOCATION COMPARTMENTS
HYDROGEN BUDGET MODELS MATHEMATICAL MODELS
RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY
INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW
EVAPORATION TRANSPIRATION PHOTOSYNTHESIS
TRACERS TRANSFER

ELECTROLYSIS

06483 DETERMINATION OF TRITIUM IN WATER AND
URINE. ELECTROLYSIS SCINTILLATION COUNTING
CHEMICAL ANALYSIS ANALYSIS URINE WATER
URINE ANALYSIS

06815 LE TRITIUM ATMOSPHERIQUE; MESURE ET
APPLICATIONS (ATMOSPHERIC TRITIUM; MEASUREMENT AND
APPLICATION). ELECTROLYSIS ENRICHMENT
THERMAL DIFFUSION GAS COUNTERS
SCINTILLATION COUNTERS HYDROLOGY

ELECTROLYTIC ENRICHMENT

06873 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER,
GROUND WATER AND HOT SPRING. CITY WATER
GROUND WATER HOT SPRINGS ELECTROLYTIC ENRICHMENT
PRECIPITATION (METEOROLOGICAL) RAINFALL

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF
THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF
NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING
ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE
QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS
PRECIPITATION (METEOROLOGICAL)
SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS
LATITUDE NUCLEAR TESTING SURFACE WATERS
GROUND WATER

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION
AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES.
ELECTROLYTIC ENRICHMENT ENRICHMENT CONCENTRATION
SNOW PRECIPITATION (METEOROLOGICAL)
THERMAL DIFFUSION RECOVERY ANTARCTIC

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE
NATURAL WATER OF SOUTHERN OAHU, HAWAII.
CONCENTRATION RAINWATER GROUND WATER HAWAII
TRITIATED WATER ELECTROLYTIC ENRICHMENT
LIQUID SCINTILLATION COUNTING

07082 MEASUREMENT OF TRITIUM; METHODS AND
INTERPRETATION. LABORATORY METHODS RAINWATER
TRACERS METEOROLOGY WATER CIRCULATION
ELECTROLYTIC ENRICHMENT MEASUREMENT

ELIMINATION

04893 RADIOISOTOPE ABSORPTION AND METHODS OF
ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF
ENTRY. ABSORPTION ELIMINATION MAN SKIN
INGESTION LUNGS GASTROINTESTINAL TRACT
CONTAMINATION

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE
NATIONAL LABORATORY. CO-60 ACCIDENTS
ELIMINATION HALF-LIFE MAN BIOLOGICAL HALF-LIFE
RADIATION EXPOSURE RADIATION DOSE

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL
TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG
AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF
TRITIUM IN MAN. RATS RODENTS MAMMALS CATS
RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE
HALF-LIFE ELIMINATION URINE BODY WATER
BODY FLUIDS

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER
IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER
TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND
SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF
TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE
HALF-LIFE MICE RATS SALT WATER GUINEA-PIG
RABBITS MAMMALS RODENTS TEMPERATURE
ELIMINATION TROPICS

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY
PEOPLE. ABSORPTION INHALATION SKIN
CONTAMINATION BODY WATER URINE BODY FLUIDS
ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE
TRITIATED WATER WATER VAPOR

06209 METHODE DE DOSAGE DE L'EAU TRITIEE ET SES
APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR
TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN
CLINICAL PRACTICE). BODY WATER BODY FLUIDS
BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD
ELIMINATION TRITIATED WATER RADIATION DOSE
DOSE RATES MAN

06219 VOLUME AND TURNOVER OF BODY WATER IN
DIPLODOMYS DESERTI WITH TRITIATED WATER.
BODY WATER BODY FLUIDS KANGAROO RATS RODENTS
MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE
ELIMINATION XEROPHIL METABOLISM

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER I GROSS STUDIES ON METABOLISM MICE
MAMMALS RODENTS BODY WATER BODY FLUIDS
BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION
TISSUES

06275 BODY WATER TURNOVER IN CATTLE WITH
PARASITIC GASTROENTERITIS.
PARASITIC DISEASES (WORMS) BODY WATER
BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS
DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS
BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC
COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE
MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS
BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION
SPECIFIC ACTIVITIES RADIATION EXPOSURE
TRITIATED WATER

07180 ASSESSMENT OF TRITIUM IN MAN. MAN
RADIATION EXPOSURE OCCUPATIONAL EXPOSURE
ASSIMILATION INHALATION URINE ANALYSIS
ELIMINATION BIOLOGICAL HALF-LIFE
MATHEMATICAL MODELS MATHEMATICAL ANALYSIS
METABOLISM HALF-LIFE CONCENTRATION BODY WATER
RADIATION DOSE MODELS

EMBRYO

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS
EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS
RODENTS MAMMALS TRITIATED WATER RADIATION DOSE
MAMMALIAN DEVELOPMENT RADIATION EFFECTS
BIOLOGICAL EFFECTS ORGANS PETUS EMBRYO

ENDODERMIS

06886 RADIAL EXCHANGE OF LABELED WATER IN INTACT
MAIZE ROOTS. TRITIATED WATER ROOTS CORTEX
ENDODERMIS METABOLISM DIFFUSION COEFFICIENT
DIFFUSION UPTAKE

ENDOTHELIAL CELLS

06812 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM
AFTER INCORPORATION OF H-3-THYMIDINE.
TRITIATED THYMIDINE RABBITS CORNEAL ENDOTHELIUM
ENDOTHELIAL CELLS ENDOTHELIUM DNA SYNTHESIS
RETENTION

ENDOTHELIUM

06812 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM AFTER INCORPORATION OF H-3-THYMIDINE. TRITIATED THYMIDINE RABBITS CORNEAL ENDOTHELIUM ENDOTHELIAL CELLS ENDOTHELIUM DNA SYNTHESIS RETENTION

ENERGY

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE. THERMODYNAMICS HEAT CAPACITY ENTROPY ENERGY TRITIUM HYDRIDE RADIOACTIVITY DISSOCIATION THERMODYNAMIC EQUILIBRIUM

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

ENGINEERING

06363 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE RADIATION EXPOSURE FOODS KR-85 RADIOACTIVE TRACERS TRACERS ENGINEERING CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

ENGLAND

06642 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18 WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

ENRICHMENT

06615 LE TRITIUM ATMOSPHERIQUE; MESURE ET APPLICATIONS (ATMOSPHERIC TRITIUM; MEASUREMENT AND APPLICATION). ELECTROLYSIS ENRICHMENT THERMAL DIFFUSION GAS COUNTERS SCINTILLATION COUNTERS HYDROLOGY

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES. ELECTROLYTIC ENRICHMENT ENRICHMENT CONCENTRATION SNOW PRECIPITATION(METEOROLOGICAL) THERMAL DIFFUSION RECOVERY ANTARCTIC

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. TRACERS SOIL MOISTURE MOVEMENT EVAPOTRANSPIRATION RAINWATER DISPERSION DEUTERIUM ENRICHMENT SOILS

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STROPOSPHERE CONTAMINATION

ENTROPY

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE. THERMODYNAMICS HEAT CAPACITY ENTROPY ENERGY TRITIUM HYDRIDE RADIOACTIVITY DISSOCIATION THERMODYNAMIC EQUILIBRIUM

ENVIRONMENTAL MONITORING

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING RADIATION DOSE DOSE ESTIMATION GROUND WATER FALLOUT ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RADIOACTIVE WASTES

06626 REMOTE TRITIUM AIR MONITORING SYSTEM. WHOLE BODY EXPOSURE RADIATION EXPOSURE SAVANNAH RIVER PLANT HAZARDS ABSORPTION CLOTHING TRITIUM OXIDE ENVIRONMENTAL MONITORING

06790 ENVIRONMENTAL MONITORING REPORT-JULY-DECEMBER 1969 AND 1969 SUMMARY. CONTAMINATION MIAMI RIVER ENVIRONMENTAL MONITORING

06819 SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966. OHIO RIVER SHIPPINGPORT ATOMIC POWER STATION

RADIOACTIVE WASTES ENVIRONMENTAL MONITORING
RADIOACTIVITY ALPHA RADIATION BETA RADIATION

06824 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1964 AND 1964 SUMMARY. PLUTONIUM POLONIUM AIR WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06825 ENVIRONMENTAL MONITORING; SEMIANNUAL REPORT, JANUARY-JUNE, 1964. AIR PLUTONIUM POLONIUM WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06826 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1965. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06827 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1965 AND 1965 SUMMARY. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06832 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1966. POLONIUM PLUTONIUM MIAMI RIVER AIR WATER ENVIRONMENTAL MONITORING CONCENTRATION

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION FLOWSHARE PROGRAM ALUTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING AMCHITKA ISLAND WATER

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ENVIRONMENTAL MONITORING STACK EMISSIONS I-129 KR-85 CONCENTRATION AIRBORNE PARTICULATES RADIOACTIVITY

07056 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION I-131 VEGETATION

07075 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING MOUND LABORATORY TRITIUM OXIDE MONITORING

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07114 HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM. BIBLIOGRAPHY HEALTH HAZARDS ENVIRONMENTAL MONITORING DOSIMETRY GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS RADIATION EXPOSURE PHYSIOLOGY

07115 THE USE OF WATER AS A SAMPLING MEDIUM FOR TRITIUM OXIDE. BETA RADIATION HANFORD PROJECT ENVIRONMENTAL MONITORING OXIDES SAMPLING TRITIUM OXIDE CONTAMINATION

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY FLOWSHARE PROGRAM FLARING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

07123 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. APPENDICES. ENVIRONMENTAL MONITORING HANFORD PROJECT CONCENTRATION COLUMBIA RIVER RIVERS

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL I-131 PU-239

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CONCENTRATION COLUMBIA RIVER HANFORD PROJECT P-32 ENVIRONMENTAL MONITORING CR-51 ZN-65 I-131 SR-90

07149 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1969. PU-238 PO-210 ENVIRONMENTAL MONITORING MOUND LABORATORY MIAMI RIVER RIVERS CONCENTRATION

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

07159 RADIATION SURVEILLANCE NETWORKS. ENVIRONMENTAL MONITORING MILK DAIRY PRODUCTS FOODS RADIOACTIVITY PU-238 MONITORING NETWORKS

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STROPOSPHERE

CONTAMINATION

ENVIRONMENTAL RADIATION

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1968. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-90 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT ENVIRONMENTAL RADIATION RADIATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL COOLING WATER RIVERS RADIATION EXPOSURE COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES WASTES

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06423 ACTIVITIES OF AECL IN THE FIELDS OF BIOLOGY, HEALTH PHYSICS AND MEDICINE. MEDICINE BIOLOGY DOSIMETRY ENVIRONMENTAL RADIATION RADIATION SAFETY

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON RELEASE TO THE ENVIRONMENT. NUCLEAR REACTORS ENVIRONMENTAL RADIATION SURFACE WATERS RADIATION TRITIATED WATER NUCLEAR POWER INDUSTRY GROUND WATER HYDROLOGICAL CYCLING

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. MONITORING ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210 RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER MIAMI RIVER

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ENVIRONMENTAL RADIATION RADIATION MONITORING PLUTONIUM POLONIUM RIVERS GROUND WATER ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING ENVIRONMENTAL RADIATION RADIATION PRECIPITATION (METEOROLOGICAL) GROUND WATER SAMPLING METEOROLOGY C-14 SI-32

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1968. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

06895 NATURAL TRITIUM. BACKGROUND RADIATION
ATMOSPHERE (TERRESTRIAL)
PRECIPITATION (METEOROLOGICAL) SEA WATER
ENVIRONMENTAL RADIATION RADIATION
COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT,
JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL)
SAVANNAH RIVER RIVERS BACKGROUND RADIATION
FALLOUT ENVIRONMENTAL RADIATION RADIATION
VEGETATION MILK DAIRY PRODUCTS FOODS NP-239
I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106
ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51
S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

ENVIRONMENTS

BETA RADIATION ENVIRONMENTS FOODS

03616 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN
ORGANS HALF-LIFE FOOD-CHAINS
BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL
DOSE ESTIMATION MODELS CONTAMINATION
ENVIRONMENTS TRANSFER COMPARTMENTS
SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND
INGESTION COMPUTER PROGRAM

04147 RADIOACTIVITY AND HUMAN DIET.
RADIOACTIVITY MAN RADIATION EXPOSURE
CONTAMINATION MILK FOOD-CHAINS FALLOUT
VEGETATION ABSORPTION SOILS ANIMALS METABOLISM
PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH
FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM
ENVIRONMENTS FOODS CALCIUM

04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE
SEDIMENTS AND MARINE ORGANISMS. SEA WATER
SEDIMENTS MARINE BIOLOGY HALF-LIFE DISTRIBUTION
CONCENTRATION RADIOACTIVITY ENVIRONMENTS

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE
ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24
SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39
HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL)
COSMIC RADIATION ENVIRONMENTS

06276 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR
POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE
ENVIRONMENT. BEHAVIOR ENVIRONMENTS OXIDATION
FALLOUT RESIDENCE TIME STRATOSPHERE OCEANS
TRITIATED WATER

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC
ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC
RESERVOIRS. AR-37 AR-39 C-14 RADIATION
RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS
ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION
KRYPTON XENON

06876 TRITIUM CONCENTRATION IN PRECIPITATION,
1967-1968. ENVIRONMENTS ALTITUDE
SEASONAL VARIATIONS HYDROLOGICAL CYCLING
PRECIPITATION (METEOROLOGICAL) RAINFALL
CONCENTRATION

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE
NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL
SUMMARY, 1968. RIVERS WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41
ILLINOIS RIVER DES PLAINES RIVER
ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

06902 TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN
WATER - INSTRUMENTATION. ENVIRONMENTS RAINWATER
SEA WATER SURFACE WATERS GROUND WATER HAWAII

ENZYMES

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL
SUSPENSIONS. CHEMICAL REACTIONS ENZYMES
BACTERIA PLANTS MICROORGANISMS
BIOLOGICAL FIXATION HYDROGENATION

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE.
ENZYMES CHEMICAL REACTIONS TAGGING
TRITIATED WATER MUSCLE TISSUES RABBITS RODENTS

06437 THE MECHANISM OF THE TRIOSEPHOSPHATE
ISOMERASE REACTION. CHEMICAL REACTIONS WATER
ENZYMES TAGGING TRITIATED WATER ISOMERIZATION
MUSCLE

EQUATIONS

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR
RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING
RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS

ADSORPTION NA-24 BR-82 P-32 HYDROLOGY
EQUATIONS TRITIATED WATER

05105 TRITIUM ET SAU TRITIEE- DUREES LIMITES
DEXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU
RENOUVELOE (TRITIUM AND TRITIATED WATER- TIME
LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR
REGENERATED ATMOSPHERES). CONTAMINATION
ACCIDENTS ADSORPTION EQUATIONS MATHEMATICS
TISSUES DIFFUSION TRITIATED WATER

06231 THE ATMOSPHERIC TRANSPORT OF TRITIUM.
ATMOSPHERE (TERRESTRIAL)
PRECIPITATION (METEOROLOGICAL) TRANSPORT
EQUATIONS TRITIATED WATER CIRCULATION

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING
WORLD NUCLEAR POWER ECONOMY. KR-85
DOSE ESTIMATION WASHOUT RAINOUT FALLOUT
RADIATION EXPOSURE MODELS INHALATION INGESTION
PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN
REACTOR FUELS REPROCESSING EQUATIONS

06625 URINARY EXCRETION OF TRITIUM FOLLOWING
EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL.
URINE EXCRETION EQUATIONS ANALYSIS MODELS
WHOLE BODY EXPOSURE RADIATION EXPOSURE
MATHEMATICAL ANALYSIS MATHEMATICAL MODELS
TRITIATED WATER DOSE ESTIMATION MAN

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND
WATER VAPOR BY LAKE TAHOE. AIR
ATMOSPHERIC TRITIUM WATER VAPOR TRANSFER LAKES
LAKE TAHOE TRANSFER RATES EQUATIONS

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY
OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS.
HYDROLOGY WATERSHEDS
PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS
CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT
SYSTEM. SAMPLING TRITIATED WATER
SPECIFIC ACTIVITIES SEA WATER SALINITY
TEMPERATURE THERMOCLINE MIXING TRANSPORT
ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS
EQUATORIAL CURRENTS

07016 HURRICANE .ITUM III; EVAPORATION OF SEA
WATER IN HURRICANE FAITH 1966. TRITIATED WATER
HURRICANES DESTRUCTIVE FACTORS EVAPORATION
SEA WATER RADIAL DISTRIBUTION RAINFALL
DISTRIBUTION EQUATIONS METEOROLOGY

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES
THROUGH GEOLOGIC MEDIA. TRITIATED WATER
FLOWSHARE PROGRAM MOVEMENT CONTAMINATION
GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS
TRANSPORT GASES DIFFUSION KR-85
DIFFUSION EQUATION EQUATIONS

EQUATORIAL CURRENTS

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT
SYSTEM. SAMPLING TRITIATED WATER
SPECIFIC ACTIVITIES SEA WATER SALINITY
TEMPERATURE THERMOCLINE MIXING TRANSPORT
ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS
EQUATORIAL CURRENTS

EQUILIBRIUM CONSTANTS

06249 ISOTOPE EFFECTS IN MIXTURES OF LIQUID H2O
AND T2O. EQUILIBRIUM CONSTANTS WATER DEUTERIUM

EQUIPMENT

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR
CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD
VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS
RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS
MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

06255 THE MEASUREMENT OF TRITIUM ACTIVITY IN
NATURAL WATERS I TECHNIQUES.
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
GROUND WATER T/H RATIO EQUIPMENT INSTRUMENTS

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN
ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO
METEOROLOGY AND HYDROLOGY, FINAL REPORT.
PRECIPITATION (METEOROLOGICAL)
GAS PROPORTIONAL COUNTERS O-18 EUROPE
MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN
PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS
DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT
SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE
TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY
DEUTERIUM

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, APRIL 1 TO JUNE 30, 1969. PRECIPITATION (METEOROLOGICAL) RIVERS GASES INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR CANADA TRITIATED WATER

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06295 RECOMMENDED PROCEDURES FOR TRITIUM. BIOASSAY URINE INSTRUMENTS EQUIPMENT

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS EQUIPMENT ABSORPTION SKIN PRECIPITATION (METEOROLOGICAL) MAN

06418 PERFORMANCE OF AN AUTOMATIC ANALYSER FOR TRITIUM IN URINE. SCINTILLATION COUNTERS RADIATION EXPOSURE WHOLE BODY EXPOSURE EQUIPMENT INSTRUMENTS URINE

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-S(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. SCINTILLATION COUNTING EQUIPMENT ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS CHEMISTRY BIOASSAY

06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR LA VAPEUR D'EAU TRITIÉE AUPRÈS DE LA PILE EL 3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR EL 3). AIR POLLUTION WATER VAPOR CONTAMINATION POLLUTION GASES EQUIPMENT NUCLEAR REACTORS TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

06630 REPORT ON THE WORK OF THE INSTITUTE OF NUCLEAR SCIENCES, ANNUAL REPORT NO 4, MARCH 1, 1968 - FEBRUARY 28, 1968. RADIOACTIVE AGE DETERMINATION EQUIPMENT C-14 FALLOUT

06634 ACTIVITIES OF THE BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER NUCLEAR LABORATORIES. RADIOCHEMICAL ANALYSIS ANALYSIS BODY BURDEN CHEMICAL ANALYSIS EQUIPMENT URINE ANALYSIS

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

06617 REVIEW OF SANDIA SYMPOSIUM ON INSTRUMENTATION, EXPERIENCE, AND PROBLEMS IN HEALTH PHYSICS TRITIUM CONTROL. HAZARDS INSTRUMENTS PROTECTIVE EQUIPMENT EQUIPMENT

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; ÉVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE). ATMOSPHERE (TERRESTRIAL) LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS PERIODIC VARIATIONS

EQUIPOTENTIAL CONTOURS

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

ERYTHROCYTES

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

ESCHERICHIA

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07088 THE EFFECTS OF TRITIUM DECAY ON DNA. PROGRESS REPORT FOR THE PERIOD 1 JANUARY-31 DECEMBER 1967. RADIOACTIVE DECAY DNA ESCHERICHIA BACTERIA MICROORGANISMS RADIATION EFFECTS RADIOSENSITIVITY

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. TRITIATED COMPOUNDS RADIATION EFFECTS GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA MICROORGANISMS BACTERIOPHAGES LETHALITY MUTATIONS ESCHERICHIA RADIATION DOSE

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

ESTUARIES

07174 ÉTUDE PAR LE TRITIUM DE MÉLANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENÈVE ET À LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENÈVE AND THE GIRONDE.) TRACERS LAKES MIXING ESTUARIES RADIOACTIVE TRACERS LAKE GENÈVE FRANCE RESIDENCE TIME

ESTUARINE ENVIRONMENTS

06796 FATE OF RADIOACTIVE CONTAMINANTS IN WATER, PROGRESS REPORT NO 2, FOR THE PERIOD MAY 1, 1958 TO JUNE 30, 1959. CHEMICAL EFFECTS BIOLOGICAL EFFECTS ESTUARINE ENVIRONMENTS MARINE ENVIRONMENT SEA WATER

ETHANE

06204 TRITIUM CONTENT OF ATMOSPHERIC METHANE AND ETHANE. GASES METHANE ETHANE NUCLEAR REACTORS ATMOSPHERE (TERRESTRIAL) T/H RATIO

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS ANALYSIS ETHANE CHEMICAL ANALYSIS ORGANIC COMPOUNDS ETHYLENE CONCENTRATION GERMANY

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

ETHYLAMINE

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

ETHYLENE

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS ANALYSIS ETHANE CHEMICAL ANALYSIS ORGANIC COMPOUNDS ETHYLENE CONCENTRATION GERMANY

EUROPE

06233 WATER TRACING IN THE HYDROLOGIC CYCLE O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952 (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) FALLOUT CANADA EUROPE ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RAINFALL PRECIPITATION (METEOROLOGICAL) CONCENTRATION

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES, GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

EUTERIUM

06263 THE RADIATION CHEMISTRY OF WATER VAPOR, THE INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF D-ATOMS WITH WATER MOLECULES. DECOMPOSITION REACTIONS EUTERIUM WATER VAPOR GASES RADIOLYSIS RADIOCHEMISTRY EXCHANGE

EU-152

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966 PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

EU-154

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966 PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

EU-155

06668 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY, FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 OD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

EU-156

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966 PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

EVAPORATION

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS II CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90 FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06236 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06370 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE SOIL MOISTURE EVAPOTRANSPIRATION TRITIATED WATER EVAPORATION DEPTH

07016 HURRICANE ITIUM III, EVAPORATION OF SEA WATER IN HURRICANE FAITH 1966 TRITIATED WATER HURRICANES DESTRUCTIVE FACTORS EVAPORATION SEA WATER RADIAL DISTRIBUTION RAINFALL DISTRIBUTION EQUATIONS METEOROLOGY

07056 THE PERCH LAKE EVAPORATION STUDY RADIOACTIVE TRACERS TRACERS MOVEMENT HYDROLOGICAL CYCLING TRITIATED WATER VAPOR EVAPORATION TRITIATED WATER GROUND WATER WATER SURFACE WATERS

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967 RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE TRITIATED WATER TRITIATED WATER VAPOR SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION ATMOSPHERE (TERRESTRIAL) SOILS LOAM

EVAPOTRANSPIRATION

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS II CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90 FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED BY MEANS OF HYDROGEN ISOTOPES MOVEMENT SOIL MOISTURE TRACERS SOILS EVAPOTRANSPIRATION DEUTERIUM

06233 WATER TRACING IN THE HYDROLOGIC CYCLE O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06370 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE. SOIL MOISTURE EVAPOTRANSPIRATION TRITIATED WATER EVAPORATION DEPTH

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS; SEVENTH PROGRESS REPORT. VERTICAL DISTRIBUTION DISTRIBUTION TROPOSPHERE CONCENTRATION WATER VAPOR EVAPOTRANSPIRATION MIXING ILLINOIS

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. TRACERS SOIL MOISTURE MOVEMENT EVAPOTRANSPIRATION RAINWATER DISPERSION DEUTERIUM ENRICHMENT SOILS

EXCHANGE

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90 FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE SEASONAL VARIATIONS PERIODIC VARIATIONS STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06283 THE RADIATION CHEMISTRY OF WATER VAPOR, THE INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF D-ATOMS WITH WATER MOLECULES. DECOMPOSITION REACTIONS BUTERIUM WATER VAPOR GASES RADIOLYSIS RADIOCHEMISTRY EXCHANGE

06788 TRITIUM TRACER IN ARCTIC PROBLEMS. TRACERS SEA WATER ICE OCEANS ARCTIC OCEAN MIXING EXCHANGE CONCENTRATION

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06966 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN. WASHOUT TRITIATED WATER WATER VAPOR RAINWATER EXCHANGE SPECIFIC ACTIVITIES STACK EMISSIONS

EXCHANGE RATE

07086 PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT; 1. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN-WATER SYSTEM. NUCLEAR EXPLOSIONS EXPLOSIONS SALT MEDIUM ISOTOPE EXCHANGE EXCHANGE RATE DEUTERIUM WATER

EXCHANGE REACTIONS

06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF CYCLIC DRYING. WATER VAPOR GASES CELLULOSE CHEMICAL REACTIONS EXCHANGE REACTIONS CHEMICAL ANALYSIS ANALYSIS

06420 ON THE MECHANISM OF THE SELF-INDUCED EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC HYDROCARBONS. TAGGING CHEMICAL REACTIONS EXCHANGE REACTIONS ORGANIC COMPOUNDS HYDROCARBONS TRITIATED COMPOUNDS

06586 TRACER MEASUREMENT OF STREAM REABERATION. RADIOACTIVE TRACERS EXCHANGE REACTIONS REABERATION DYES KR-85 JACKSON RIVER

06823 POSSIBLE TECHNIQUES FOR DECONTAMINATION OF NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR EXPLOSION. TRITIATED METHANE TRITIATED ETHANE DECONTAMINATION EXCHANGE REACTIONS GAS WELLS NATURAL GAS KR-85

EXCHANGE VELOCITY

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES. ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS SURFACE WATERS CIRCULATION MIXING ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

EXCRETION

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06599 TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER. OXIDES HAZARDS WHOLE BODY EXPOSURE ABSORPTION RADIATION EXPOSURE MAXIMUM PERMISSIBLE CONCENTRATION SAFETY TRITIUM OXIDE EXCRETION

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. TRITIUM OXIDE METABOLISM MICE RATS MAN EXCRETION SPECIFIC ACTIVITIES BIOLOGICAL HALF-LIFE

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE FECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. TRITIUM OXIDE RADIATION EFFECTS TOXICITY BIOLOGICAL EFFECTS DOGS METABOLISM BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE EXCRETION

07101 EVALUATION OF POTENTIAL HAZARDS FROM TRITIUM WATER. RADIOLOGICAL HAZARDS TRITIATED WATER BIOLOGICAL DOSE EQUIVALENTS EXCRETION CONCENTRATION ORGANS DNA GENETIC EFFECTS

EXHALED WATER VAPOR

06781 MEASUREMENT OF TRITIUM CONCENTRATION IN EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY BURDENS. URINE SAMPLING BREATH SAMPLING BODY BURDEN EXHALED WATER VAPOR DOSE ESTIMATION CONCENTRATION

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

EXPLOSIONS

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHAERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE MIXING RETENTION

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06268 TRITIUM DISTRIBUTION IN GROUND WATER AROUND LARGE UNDERGROUND FUSION EXPLOSIONS. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS GROUND WATER PLOWSHARE PROGRAM DISTRIBUTION TRITIATED WATER

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

06363 MORATORIUM TRITIUM GEOPHYSICS. SURFACE WATERS ATMOSPHERE (TERRESTRIAL) NUCLEAR EXPLOSIONS EXPLOSIONS FALLOUT MOVEMENT STRATOSPHERE TROPOSPHERE

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN PLOWSHARE EVENTS. PLOWSHARE PROGRAM SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06382 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. SEA WATER NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT COLOMBIA GULF OF SAN MIGUEL ISOTOPE EXCHANGE SPECIFIC ACTIVITIES

06384 APPROACHES TO THE CALCULATION OF LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL PURPOSES. NUCLEAR EXPLOSIONS EXPLOSIONS KR-85 C-14 MATHEMATICAL ANALYSIS ANALYSIS MAXIMUM PERMISSIBLE CONCENTRATION

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE PLOWSHARE PROGRAM

06399 GROUND WATER CONTAMINATION PREDICTIONS. CONTAMINATION SAFETY NUCLEAR EXPLOSIONS EXPLOSIONS FISSION PRODUCTS RADIOACTIVE WASTE DISPOSAL GROUND WATER CONCENTRATION

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPE PRODUCTION TRITIATED WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION PLOWSHARE PROGRAM ALUTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING AMCHITKA ISLAND WATER

07080 PURGING OF NUCLEAR CHIMNEYS. KR-85 UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH PLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

07086 PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT; 1. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN-WATER SYSTEM. NUCLEAR EXPLOSIONS EXPLOSIONS SALT MEDIUM ISOTOPE EXCHANGE EXCHANGE RATE DEUTERIUM WATER

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY ADSORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07156 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I PLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

EXREM

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

EXTERNAL DOSE

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HQ-203 MAN FOOD-CHAINS DOSE ESTIMATION

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

EXTRACTION

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANES); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968. SHALE CANE RETENTION PENETRATION EXTRACTION PLOWSHARE PROGRAM SEDIMENTARY ROCK ROCK CONTAMINATION

EXUDATE

06866 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. TRITIATED WATER ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT CL-36 UPTAKE TRANSPORT

FAGACEAE

06261 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROGEOLOGY

FALLOUT

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING RADIATION DOSE DOSE ESTIMATION GROUND WATER FALLOUT ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RADIOACTIVE WASTES

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS AND THEIR BIOLOGICAL SIGNIFICANCE. CONTAMINATION RADIOACTIVITY FALLOUT DOSE RATES SAFETY MAN RADIATION EXPOSURE FRESH WATER

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. SR-90 DISTRIBUTION DEPOSITION FALLOUT SAMPLING ATMOSPHERE (TERRESTRIAL) HTO/SR-90 RATIO

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH PORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90 FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE SEASONAL VARIATIONS PERIODIC VARIATIONS STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06193 C-14 OCH TRITIUM ISOTOPERNAS FÖREKOMST ÖVER SKANDINAVIEN UNDER SENARA ÅR MED TILLÄMPNINGEN INOM MARKLÄRA OCH HYDROLOGI (THE OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND HYDROLOGY). C-14 SCANDINAVIA HYDROLOGY FALLOUT SURFACE WATERS GROUND WATER MONITORING

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06211 NATURAL TRITIUM IN GROUNDWATER STUDIES. GROUND WATER HYDROLOGY ICELAND RAINOUT FALLOUT CONCENTRATION

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES EFFECTUEES AU CENTRE DETUDES NUCLEAIRES DE GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE NUCLEAR RESEARCH CENTRE). HYDROLOGY SAMPLING

FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL) KARST CONCENTRATION TRACERS HYDROGEOLOGY

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06236 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06278 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE ENVIRONMENT. BEHAVIOR ENVIRONMENTS OXIDATION FALLOUT RESIDENCE TIME STRATOSPHERE OCEANS TRITIATED WATER

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

06363 MORATORIUM TRITIUM GEOPHYSICS. SURFACE WATERS ATMOSPHERE (TERRESTRIAL) NUCLEAR EXPLOSIONS EXPLOSIONS FALLOUT MOVEMENT STRATOSPHERE TROPOSPHERE

06382 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. SEA WATER NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT COLOMBIA GULF OF SAN MIGUEL ISOTOPE EXCHANGE SPECIFIC ACTIVITIES

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT LAKE TAHOE NEVADA TEST SITE CS-137 SR-90 CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES RAINFALL SURFACE WATERS

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

06630 REPORT ON THE WORK OF THE INSTITUTE OF NUCLEAR SCIENCES, ANNUAL REPORT NO 4, MARCH L. 1961 - FEBRUARY 28, 1962. RADIOACTIVE AGE DETERMINATION EQUIPMENT C-14 FALLOUT

06806 ENVIRONMENT RADIOACTIVITY AT THE SHIPPINGPORT ATOMIC POWER STATION FOR THE SECOND HALF OF 1963 AND FOR CALENDAR YEAR 1963. SHIPPINGPORT ATOMIC POWER STATION OHIO RIVER FALLOUT BETA RADIATION RADIOACTIVE WASTES

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90 RAINFALL FALLOUT RADIATION STRATOSPHERE ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT RESIDENCE TIME

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90 RAINFALL FALLOUT RADIATION STRATOSPHERE ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT RESIDENCE TIME

06854 TRITIUM FALLOUT OVER NORTH AMERICA FROM THE SOVIET TESTS IN 1961. RADIATION ATMOSPHERIC NUCLEAR TESTING FALLOUT

06867 TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS OF THE U S GEOLOGICAL SURVEY RESEARCH PROGRAM. AQUIFERS GROUND WATER RADIOACTIVE DECAY HALF-LIFE HYDROLOGICAL CYCLING HYDROLOGY FALLOUT

06885 TRITIUM IN SOUTHERN HEMISPHERE PRECIPITATION 1953-1964. TRITIATED WATER SOUTHERN HEMISPHERE FALLOUT TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06893 TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN FALLOUT RH-102 TROPOSPHERE STRATOSPHERE DEUTERIUM NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMI-ANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS. FALLOUT C-14 ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY BETA RADIATION GAMMA RADIATION

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. TRITIUM OXIDE RADIATION HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS NUCLEAR REACTORS

06961 TRITIUM MEASUREMENTS IN NATURE. A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

06976 TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA. ANTARCTIC FIRN PROFILES FALLOUT SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ACCUMULATION RATE

06996 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. FALLOUT CRATER LAKE LAKES SR-90 CS-137 TEMPERATURE PROFILES CONCENTRATION SOILS SEDIMENTS

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING 1966, 1967, AND 1968. RAINOUT FALLOUT PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING DISTRIBUTION RAINFALL SAMPLING SAMPLING NETWORKS

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) FALLOUT CANADA EUROPE ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RAINFALL PRECIPITATION (METEOROLOGICAL) CONCENTRATION

07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS SARGASSO SEA OCEANS SR-90 FALLOUT ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION DEPTH ACTIVATION ANALYSIS

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

FATS

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER FATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06836 THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS. TRITIATED WATER FATS SKIN BODY FLUIDS RETENTION SPECIFIC ACTIVITIES TISSUES BIOLOGICAL HALF-LIFE

FATTY ACIDS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER. FATTY ACIDS ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER BIOCHEMISTRY

06670 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS FATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS RODENTS MAMMALS FATTY ACIDS RETENTION DISTRIBUTION

FAUNA

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PE-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

PECES

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE PECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

PETUS

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS PETUS EMBRYO

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO PETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE. TRITIUM OXIDE TRANSFER PETUS RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS RADIATION DOSE

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS PETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

PE-55

06688 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 BU-155 SM-151 CD-113 QD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM. PE-55 NI-59 RADIATION MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER RADIOLOGICAL HAZARDS CONTAMINATION NUCLEAR REACTORS

PE-59

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PE-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

FIRM PROFILES

06269 TRITIUM PROFILES IN TWO FIRM CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. PRECIPITATION (METEOROLOGICAL) SNOW ALPINE ALPS MOUNTAINS FIRM PROFILES

06976 TRITIUM CONTENT IN A FIRM CORE FROM ANTARCTICA. ANTARCTIC FIRM PROFILES FALLOUT SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ACCUMULATION RATE

FISH

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY.

BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PE-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELLECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES BODY WATER SNAILS GASTROPODS AQUATIC LIFE MOLLUSKS ABSORPTION FISH RETENTION TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1966. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS UPTAKE CONCENTRATION INVERTEBRATES BIOLOGICAL HALF-LIFE

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-239 PU-239 U-235 U-238 K-40 NEW YORK AIR

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-85 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

FISSION PRODUCTS

06399 GROUND WATER CONTAMINATION PREDICTIONS. CONTAMINATION SAFETY NUCLEAR EXPLOSIONS EXPLOSIONS FISSION PRODUCTS RADIOACTIVE WASTE DISPOSAL GROUND WATER CONCENTRATION

06794 FISSION PRODUCT TRITIUM IN FUEL REPROCESSING WASTES. URANIUM FISSION RADIOLOGICAL HAZARDS RADIOACTIVE WASTES TRITIUM OXIDE DECONTAMINATION CONCENTRATION TRITIUM GAS RADIOACTIVE WASTE DISPOSAL FISSION PRODUCTS

06805 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, JULY-DECEMBER, 1964 AND ANNUAL SUMMARY, 1964. RADIATION WASTE WATER FISSION PRODUCTS ALPHA RADIATION BETA RADIATION ATMOSPHERE (TERRESTRIAL)

06887 PROJECT GNOME, ISOTOPE PROGRAM; FINAL REPORT. TRITIATED WATER PROJECT GNOME SALT MEDIUM FISSION PRODUCTS FRACTIONATION UNDERGROUND NUCLEAR EXPLOSIONS

06946 DETECTION ET MEASURE DE LA CONTAMINATION DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF THE CONTAMINATION OF GASES AND VAPORS). TRITIATED WATER OXIDATION FISSION PRODUCTS METALLIC TRITIDES TRITIATED HYDROGEN CONTAMINATION

PIXATION

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

FLARING

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY FLOWSHARE PROGRAM FLARING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

FLORA

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA PAUNA PE-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

FLOW RATES

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IONIC ROCK ROCK

FLOWERING PLANTS

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

06368 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. FLOWERING PLANTS WATER VAPOR HELIANTHUS PLANTS NICOTIANA GASES TISSUES MOVEMENT DISTRIBUTION TRITIATED WATER TRANSPIRATION

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELLED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DNA DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06875 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION. TRITIATED WATER ROOT SYSTEM ROOTS PLANTS HELIANTHUS TRANSPIRATION UPTAKE FLOWERING PLANTS

FLUORESCCEIN

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCCEIN 1-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

FLUSHING

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY - GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. NATURAL GAS CONTAMINATION FLOWSHARE PROGRAM KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS FLUSHING DILUTION PROJECT GASBUGGY

FOODS

BETA RADIATION ENVIRONMENTS FOODS

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT 1-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 QA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE RADIATION EXPOSURE FOODS KR-85 RADIOACTIVE TRACERS TRACERS ENGINEERING CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06470 CARBON-14, TRITIUM, AND PLUTONIUM-239 IN MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968. C-14 PU-239 MILK DAIRY PRODUCTS FOODS DIETS CONCENTRATION

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1968. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN

BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 1-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CR-141 SAVANNAH RIVER PLANT

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06980 TRITIUM CONCENTRATIONS IN FOOD, 1967-1968. CONCENTRATION FOODS DOSE EQUIVALENTS CHILDREN UNITED STATES

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 1-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 1-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 1-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 1-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 1-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07159 RADIATION SURVEILLANCE NETWORKS. ENVIRONMENTAL MONITORING MILK DAIRY PRODUCTS FOODS RADIOACTIVITY PU-238 MONITORING NETWORKS

FOOD-CHAINS

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS UPTAKE CONCENTRATION INVERTEBRATES BIOLOGICAL HALF-LIFE

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA PLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WATERS RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STRATOSPHERE CONTAMINATION

FORAGE

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS

FORESTS

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS

SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

FORMALDEHYDE

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

FRACTIONATION

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. FRACTIONATION DEUTERIUM BIOLOGICAL SYSTEMS RATS MAMMALS RODENTS T/D RATIO BODY WATER

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06887 PROJECT GNOME, ISOTOPE PROGRAM; FINAL REPORT. TRITIATED WATER PROJECT GNOME SALT MEDIUM FISSION PRODUCTS FRACTIONATION UNDERGROUND NUCLEAR EXPLOSIONS

FRANCE

06213 OXYGENE-18 ET TRITIUM DANS LE BASSIN DEVIAN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). O-18 HYDRODYNAMICS FRANCE SAMPLING WATER TABLE HYDROLOGY TRACERS

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM ACTIVITY IN THE SOUTHWEST OF FRANCE). RAINWATER FRANCE GROUND WATER LAKES SEASONAL VARIATIONS PERIODIC VARIATIONS

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES EFFECTUEES AU CENTRE D'ETUDES NUCLEAIRES DE GRENoble (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENoble NUCLEAR RESEARCH CENTRE). HYDROLOGY SAMPLING FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL) KARST CONCENTRATION TRACERS HYDROGEOLOGY

06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC TRITIUM FROM THERMONUCLEAR EXPLOSIONS). PRECIPITATION (METEOROLOGICAL) RAINFALL ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING FRANCE

07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) LAKES DISTRIBUTION FRANCE STRATIFICATION PRECIPITATION (METEOROLOGICAL) TEMPERATURE HYDROLOGY

07022 RESULTATS DE MESURES D'ACTIVITE EN TRITIUM DE CERTAINES EAUX DU SUD-OUEST. (RESULTS OF TRITIUM ACTIVITY MEASUREMENTS OF SOME WATER OF SOUTHWEST.) RAINWATER LAKES VEGETABLES DISTRIBUTION FRANCE

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) CONCENTRATION PRECIPITATION (METEOROLOGICAL) FRANCE SEASONAL VARIATIONS PERIODIC VARIATIONS TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE STRATOSPHERE SR-90

07171 CONTRIBUTION DES MESURES ISOTOPIQUES A L'ETUDE DE LA FONTAINE DE VAUCLUSE. (CONTRIBUTION OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE FONTAINE DE VAUCLUSE.) C-14 SPRINGS HYDROLOGY FRANCE

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) TRACERS LAKES MIXING ESTUARIES RADIOACTIVE TRACERS LAKE GENEVA FRANCE RESIDENCE TIME

FRESH WATER

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS AND THEIR BIOLOGICAL SIGNIFICANCE. CONTAMINATION, RADIOACTIVITY FALLOUT DOSE RATES SAFETY MAN RADIATION EXPOSURE FRESH WATER

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM II. DISTRIBUTION COSMIC RADIATION SURFACE WATERS RADIATION RAINFALL PRECIPITATION (METEOROLOGICAL) TRITIATED WATER SEA WATER FRESH WATER WINES

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

FROGS

06959 A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS FROG SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER. FROGS AQUATIC LIFE PERMEABILITY COEFFICIENT TRITIATED WATER ISOTOPE EFFECT SKIN TRANSFER

FRUITS

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

FUEL PROCESSING

06613 WASTE DISPOSAL. DILUTION DISTILLATION RECYCLING FUEL PROCESSING RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

07098 ORNL EXPERIMENTS ON THE BEHAVIOR OF TRITIUM DURING HEAD-END PROCESSING OF IRRADIATED REACTOR FUELS. NUCLEAR FUEL PLANTS KR-85 FUEL PROCESSING

FUELS

06208 RADIOACTIVE WASTES FROM FUSION REACTORS. RADIOACTIVE WASTES WASTES NUCLEAR REACTORS NUCLEAR POWER INDUSTRY FUSION FUELS

FUSION

06208 RADIOACTIVE WASTES FROM FUSION REACTORS. RADIOACTIVE WASTES WASTES NUCLEAR REACTORS NUCLEAR POWER INDUSTRY FUSION FUELS

GAMMA RADIATION

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06609 ANALYSIS OF EXTERNAL EXPOSURES IN 1966. RADIATION EXPOSURE WHOLE BODY EXPOSURE GAMMA RADIATION DOSIMETRY BETA RADIATION

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

06881 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. PLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS. FALLOUT C-14 ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY BETA RADIATION GAMMA RADIATION

06935 RESULTS FROM SEDAN POSTSHOT DRILLING. SEDAN UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION RADIATION NEVADA TEST SITE NUCLEAR CRATERS PLOWSHARE PROGRAM

06937 WEST VALLEY REPROCESSING PLANT
ENVIRONMENTAL MONITORING SURVEY. SR-90
ALPHA RADIATION BETA RADIATION RADIATION
GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS
WATER FOODS DAIRY PRODUCTS
ENVIRONMENTAL MONITORING

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT,
JULY THROUGH DECEMBER 1969. RADIOACTIVITY
TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL)
WATER VEGETATION FISH MILK GAMMA RADIATION
CS-137 CS-134 CE-141 CE-144 RU-103 RU-106
ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239
MONITORING SAVANNAH RIVER PLANT

GAS ANALYSIS

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY -
GAS QUALITY ANALYSIS AND EVALUATION PROGRAM.
NATURAL GAS CONTAMINATION FLOWSHARE PROGRAM
KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS
CHEMICAL ANALYSIS FLUSHING DILUTION
PROJECT GASBUGGY

GAS COUNTERS

06815 LE TRITIUM ATMOSPHERIQUE; MESURE ET
APPLICATIONS (ATMOSPHERIC TRITIUM; MEASUREMENT AND
APPLICATION). ELECTROLYSIS ENRICHMENT
THERMAL DIFFUSION GAS COUNTERS
SCINTILLATION COUNTERS HYDROLOGY

GAS PROPORTIONAL COUNTERS

06255 THE MEASUREMENT OF TRITIUM ACTIVITY IN
NATURAL WATERS I TECHNIQUES.
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
GROUND WATER T/H RATIO EQUIPMENT INSTRUMENTS

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN
ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO
METEOROLOGY AND HYDROLOGY. FINAL REPORT.
PRECIPITATION (METEOROLOGICAL)
GAS PROPORTIONAL COUNTERS O-18 EUROPE
MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN
PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS
DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT
SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE
TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY
DEUTERIUM

07114 HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM.
BIBLIOGRAPHY HEALTH HAZARDS
ENVIRONMENTAL MONITORING DOSIMETRY
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
RADIATION EXPOSURE PHYSIOLOGY

GAS PURIFICATION SYSTEM

07144 REPAIRING A LARGE TRITIUM-CONTAMINATED
SYSTEM. DRY BOX SYSTEM REPAIR
GAS PURIFICATION SYSTEM CONTAMINATION
RADIATION EXPOSURE MAN

GAS WELLS

06823 POSSIBLE TECHNIQUES FOR DECONTAMINATION OF
NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR
EXPLOSION. TRITIATED METHANE TRITIATED ETHANE
DECONTAMINATION EXCHANGE REACTIONS GAS WELLS
NATURAL GAS KR-85

GASES

05051 SOME SECOND THOUGHTS ON TRITIUM
CONTAMINATION. CONTAMINATION RADIOACTIVITY
GASES DIFFUSION WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL TRITIUM GAS
RADIOLOGICAL HAZARDS

05104 TRITIUM HEALTH PHYSICS CONSIDERATIONS.
RADIOACTIVITY MAXIMUM PERMISSIBLE CONCENTRATION
TOXICITY GASES MONITORING TRITIATED WATER
TRITIATED GAS

06204 TRITIUM CONTENT OF ATMOSPHERIC METHANE AND
ETHANE. GASES METHANE ETHANE NUCLEAR REACTORS
ATMOSPHERE (TERRESTRIAL) T/H RATIO

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON
HILDA 1964 AND BETSY 1965. DESTRUCTIVE FACTORS
WATER VAPOR SEA WATER SALT WATER STORMS
HURRICANES GASES CONCENTRATION

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE
AND SOURCES OF TRITIATED METHANE. HYDROGEN GASES
METHANE NUCLEAR POWER INDUSTRY T/H RATIO
ATMOSPHERE (TERRESTRIAL) TRITIATED METHANE

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN
NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL
CIRCULATION OF WATER.
PRECIPITATION (METEOROLOGICAL)
VERTICAL DISTRIBUTION METEOROLOGY SEA WATER
O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION
DISTRIBUTION RAINWATER SALT WATER WATER VAPOR
GASES DEUTERIUM

06241 ISOTOPIC COMPOSITION OF ATMOSPHERIC
HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN
GASES DEUTERIUM GERMANY

06246 THE PRODUCTION RATE OF NATURAL TRITIUM.
PRECIPITATION (METEOROLOGICAL) NORTH AMERICA
TROPOSPHERE STRATOSPHERE RESIDENCE TIME
COSMIC RADIATION RADIATION NUCLEAR TESTING
TRANSPORT WATER VAPOR GASES DEUTERIUM
PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06259 TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC
METHANE. ATMOSPHERE (TERRESTRIAL) METHANE
GASES GERMANY DEUTERIUM INDIANA

06283 THE RADIATION CHEMISTRY OF WATER VAPOR, THE
INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF
D-ATOMS WITH WATER MOLECULES.
DECOMPOSITION REACTIONS DEUTERIUM WATER VAPOR
GASES RADIOLYSIS RADIOCHEMISTRY EXCHANGE

06287 THE CURRENT TRITIUM CONTENTS OF NATURAL
WATERS. PLANTS SOVIET UNION WATER VAPOR GASES
PRECIPITATION (METEOROLOGICAL) LAKES RIVERS
GROUND WATER CONCENTRATION

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS
DIVISION, APRIL 1 TO JUNE 30, 1969.
PRECIPITATION (METEOROLOGICAL) RIVERS GASES
INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR
CANADA TRITIATED WATER

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY
PROGRESS REPORT ON THE THEORETICAL EVALUATION OF
CONSUMER PRODUCTS FROM PROJECT GASBUGGY.
LIQUID HYDROCARBONS NATURAL GAS WATER GASES
FLOWSHARE PROGRAM KR-85 PROJECT GASBUGGY

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND
TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE
OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS
MAN PRESSURE WHOLE BODY EXPOSURE
RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06346 AN APPROXIMATION OF RADIATION DOSE
RESULTING FROM AN ACCIDENTAL RELEASE OF TRITIUM
GAS. GASES DOSE ESTIMATION RADIATION
ACCIDENTS TRITIUM GAS

06354 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN
AND ATMOSPHERIC METHANE. HYDROGEN GASES METHANE
ATMOSPHERE (TERRESTRIAL)

06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND
WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF
CYCLIC DRYING. WATER VAPOR GASES CELLULOSE
CHEMICAL REACTIONS EXCHANGE REACTIONS
CHEMICAL ANALYSIS ANALYSIS

06368 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE
WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS
AND NICOTIANA. FLOWERING PLANTS WATER VAPOR
HELIANTHUS PLANTS NICOTIANA GASES TISSUES
MOVEMENT DISTRIBUTION TRITIATED WATER
TRANSPIRATION

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH
PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN
BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT
IONIZATION CHAMBER SCINTILLATION COUNTERS
PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM
IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS.
TISSUES GASES RATS MAMMALS RODENTS
WHOLE BODY EXPOSURE RADIATION EXPOSURE
TRITIUM GAS TRITIUM OXIDE DISTRIBUTION
RETENTION

06385 STUDYING THE DIFFUSION OF AQUEOUS VAPOURS
IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM.
RADIOACTIVE TRACERS TRACERS DIFFUSION
WATER VAPOR GASES ORGANIC COMPOUNDS POLYMERS

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO
VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE.
CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN
GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM
METABOLISM

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06419 HYDROGEN EXCHANGE IN PROTEINS. PROTEINS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GASES POLYPEPTIDES ISOTOPE EXCHANGE HYDROGEN

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06614 A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE. ACCIDENTS ATMOSPHERE (TERRESTRIAL) GASES HYDROGEN TRITIATED HYDROGEN WINDSCALE NUCLEAR REACTORS

06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR LA VAPEUR D'EAU TRITIÉE AU-DESSUS DE LA PILE EL 3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR EL 3) AIR POLLUTION WATER VAPOR CONTAMINATION POLLUTION GASES EQUIPMENT NUCLEAR REACTORS TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18 WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

06868 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER VAPOR TRITIATED WATER STRATOSPHERE TROPOSPHERE GASES

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE CRITICAL POINT OF HYDROGEN, DEUTERIUM, AND TRITIUM, AND THEIR DIATOMIC COMBINATIONS. DEUTERIUM HYDROGEN GASES VAPOR PRESSURE COEFFICIENTS TEMPERATURE CONSTANTS

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER FLOWSHARE PROGRAM MOVEMENT CONTAMINATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS TRANSPORT GASES DIFFUSION KR-85 DIFFUSION EQUATION EQUATIONS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

GASTROINTESTINAL TRACT

04893 RADIOISOTOPE ABSORPTION AND METHODS OF ELIMINATION-RELATIVE SIGNIFICANCE OF PORTALS OF ENTRY. ABSORPTION ELIMINATION MAN SKIN INGESTION LUNGS GASTROINTESTINAL TRACT CONTAMINATION

06328 THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN. GASTROINTESTINAL TRACT MAN URINE INGESTION ABSORPTION BLOOD TRANSFER TRITIATED WATER

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS WATER EXCHANGE BARRIERS WATER BALANCE LUNGS SKIN BODY WATER GASTROINTESTINAL TRACT PHYSICAL PROPERTIES

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

GASTROPODS

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES BODY WATER SNAILS GASTROPODS AQUATIC LIFE MOLLUSKS ABSORPTION FISH RETENTION TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

GAS-GRAPHITE REACTORS

06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS. GAS-GRAPHITE REACTORS HEAVY WATER REACTORS LATINA REACTOR NUCLEAR REACTORS ACTIVATION HAZARDS TRITIATED WATER RADIOLOGICAL HAZARDS

GA-72

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF INTERNAL EMITTERS. BODY MAN PLUTONIUM SR-90 CS-137 ZN-65 GA-72 P-32

GD-153

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

GENETIC EFFECTS

06891 BIO-ORGANIC CHEMISTRY QUARTERLY REPORT; SEPTEMBER-NOVEMBER 1961. DEUTERIUM MUTATIONS DROSOPHILA GENETIC EFFECTS RADIATION EFFECTS DIPTERA INSECTS

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. DNA TRITIATED THYMIDINE GENETIC EFFECTS BIOLOGICAL EFFECTS MUTATIONS RELATIVE BIOLOGICAL EFFECTIVENESS CELLS CELL NUCLEUS

07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE. TRITIATED THYMIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS RADIATION EFFECTS BIOLOGICAL EFFECTS GENETIC EFFECTS MUTATIONS

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. LABELING TRITIATED THYMIDINE CHROMOSOMES DNA BIOLOGICAL EFFECTS RADIATION EFFECTS RETENTION GENETIC EFFECTS

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07101 EVALUATION OF POTENTIAL HAZARDS FROM TRITIUM WATER. RADIOLOGICAL HAZARDS TRITIATED WATER BIOLOGICAL DOSE EQUIVALENTS EXCRETION CONCENTRATION ORGANS DNA GENETIC EFFECTS

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS REPORT, 1988-1989. Y-90 SR-90 CRASSOSTREA OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

07124 PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE. GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY TRACERS CELLULAR METABOLISM TOXICITY GENETIC EFFECTS RADIATION EFFECTS

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. TRITIATED COMPOUNDS RADIATION EFFECTS GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA MICROORGANISMS BACTERIOPHAGES LETHALITY MUTATIONS ESCHERICHIA RADIATION DOSE

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

07128 EFFET LETAL DE LA DESINTEGRATION D ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORES DANS UNE BACTERIE. (LETHAL EFFECT ON BACTERIUM OF DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32). C-14 P-32 RADIOACTIVE DECAY RADIATION EFFECTS BACTERIA MICROORGANISMS GENETIC EFFECTS LETHALITY

07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS. MUTATIONS RADIATION EFFECTS GENETIC EFFECTS PEAS TRITIATED WATER VEGETABLES

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WATERS RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

GEOCHEMISTRY

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY

GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

GEOLOGY

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1983. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY PLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

GEOPHYSICS

06190 TRITIUM GEOPHYSICS AS AN INTERNATIONAL RESEARCH PROJECT. GEOPHYSICS HYDROLOGY COSMIC RADIATION METEOROLOGY OCEANOGRAPHY TRACERS

06951 LE TRITIUM UTILISE COMME TRACEUR EN GEOPHYSIQUE (TRITIUM USED AS A TRACER IN GEOPHYSICS). TRACERS GEOPHYSICS CURRENTS UNDERGROUND WATER CIRCULATION SURFACE WATER CIRCULATION

GEO THERMAL WATERS

06884 ORIGIN OF TRITIUM IN HYDROTHERMAL SOLUTIONS. TRITIATED WATER HYDROTHERMAL SOLUTIONS GEO THERMAL WATERS URANIUM THORIUM

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. GROUND WATER CHLORIDES CONCENTRATION CIRCULATION DILUTION NEW ZEALAND MIXING TRITIATED WATER BORES GEO THERMAL WATERS

GERMANY

06241 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN GASES DEUTERIUM GERMANY

06244 STRATOSPHERISCHES TRITIUM (STRATOSPHERIC TRITIUM). PRECIPITATION (METEOROLOGICAL) RAINOUT GERMANY TROPOSPHERE MODELS STRATOSPHERE WASHOUT DEPOSITION

06259 TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC METHANE. ATMOSPHERE (TERRESTRIAL) METHANE GASES GERMANY DEUTERIUM INDIANA

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS ANALYSIS ETHANE CHEMICAL ANALYSIS ORGANIC COMPOUNDS ETHYLENE CONCENTRATION GERMANY

06641 MESSUNG DES TRITIUM-JAHRESGANGES IM REGEN 1960-61 NACH ISOTOPENANREICHERUNG IM TRENNROHR (MEASUREMENT OF THE TRITIUM CONCENTRATION PATTERN IN RAIN IN 1960-61 BY ISOTOPIC ENRICHMENT IN THE SEPARATION PERIOD). GERMANY SR-90 RAINWATER CONCENTRATION

06965 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS RAINWATER GERMANY CONCENTRATION RAINOUT WASHOUT ATMOSPHERE (TERRESTRIAL) PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL)

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

07135 ZUR FRAGE DER FESTSETZUNG HOECHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER. (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER.) NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY GERMANY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

07164 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 2, FOR THE PERIOD 1 NOVEMBER 1961--31 OCTOBER 1962. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE PRECIPITATION (METEOROLOGICAL) WATER CONCENTRATION METEORITES GERMANY

GERMINATION TIME

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

GLASS

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS. RADIOACTIVE WASTE DISPOSAL GLASS LEACHING SR-90 CS-137 SOILS SAND GROUND WATER

GLOBAL NETWORK

07077 ENVIRONMENTAL ISOTOPE DATA NO. L; WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1953-1963). DEUTERIUM O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE AIR TEMPERATURE GLOBAL NETWORK MONITORING

GLUCOSE

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIEN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER. FATTY ACIDS ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER BIOCHEMISTRY

GLYCINE

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND GLYCINE BETWEEN MATERIAL AND POSTAL BODY FLUIDS IN RABBITS AND PIGS. C-14 UREA GLYCINE PERITONEUM PIGS RABBITS ALLANTOIC SAC TRITIATED WATER TRANSFER BODY FLUIDS TRITIATED WATER

GLYCOGEN

06852 BINBAU VON H-3-D-GLUCOSE WAEREND DER

OOGENSEE BEI APIS MELLIFICA L (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENSEE IN APIS MELLIFICA L). TRITIATED GLUCOSE GLYCOGEN HONEY BEE INSECTS INSECT OOGENSEE REPRODUCTION

GLYCOLYTIC SCHEME

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

GONADS

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

GRAINS

06466 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

GRAMINAE

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

GRAM-LAMBERT

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. TRITIATED POLYMERS LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION CONTAMINATION CONCENTRATION GRAM-LAMBERT MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

GRANITE

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

GREAT LAKES

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA SURFACE WATERS PRECIPITATION (METEOROLOGICAL) HYDROLOGICAL CYCLING CONCENTRATION SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS ALASKA GREENLAND

07187 FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES FROM NUCLEAR POWER PRODUCTION. GREAT LAKES LAKE MICHIGAN NUCLEAR REACTORS NUCLEAR POWER INDUSTRY TRANSPORT CONCENTRATION RADIOACTIVITY

GREEN RIVER

06682 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. FLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

GREENLAND

06223 NEUBESTIMMUNG DER NATUERLICHEN IRDISCHEN TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES NATUERLICHEN TRITIUM (REDETERMINATION OF NATURAL TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE OF NATURAL TRITIUM). RADIOACTIVE DECAY COSMIC RADIATION RADIATION RESIDENCE TIME STRATOSPHERE TROPOSPHERE SNOW GREENLAND

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06635 BIOLOGY AND HEALTH PHYSICS DIVISION,
PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968.
PRECIPITATION (METEOROLOGICAL) RIVERS SKIN
ABSORPTION WATER VAPOR GASES
ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS
EQUIPMENT CANADA ALASKA GREENLAND
TRITIATED WATER

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN
CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA
SURFACE WATERS PRECIPITATION (METEOROLOGICAL)
HYDROLOGICAL CYCLING CONCENTRATION
SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS
ALASKA GREENLAND

GROUND SHOCK

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW
EVENT. MILROW RADIOACTIVITY GROUND WATER
CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION
ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND
TSUNAMIS BIOLOGICAL EFFECTS
UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK
WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES
NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

GROUND WATER

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING
RADIATION DOSE DOSE ESTIMATION GROUND WATER
FALLOUT ATMOSPHERIC NUCLEAR TESTING
NUCLEAR TESTING RADIOACTIVE WASTES

04942 FIELD AND LABORATORY TESTS OF
CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE
TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS
MEASUREMENT TRACERS RADIOACTIVE TRACERS
FLOW RATES EDTA ORGANIC COMPOUNDS CR-51
GAMMA RADIATION RADIATION SOILS BR-82
RHODAMINE-B DYES TRITIATED WATER MOVEMENT
GROUND WATER

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES
OF GROUNDWATER. MEASUREMENT C-14
RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY
RADIOACTIVE AGE DETERMINATION AGE GROUND WATER
AQUIPERS

06193 C-14 OCH TRITIUM ISOTOPERNAS POBERKOMST
OBER SKANDINAVIEN UNDER SENARA AR MED
TILLÄMPNING INOM MARKLÄRA OCH HYDROLOGI (THE
OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT
SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND
HYDROLOGY). C-14 SCANDINAVIA HYDROLOGY
FALLOUT SURFACE WATERS GROUND WATER MONITORING

06210 DATING OF GROUNDWATER WITH TRITIUM AND
C-14. RADIOACTIVE AGE DETERMINATION C-14
GROUND WATER SOIL MOISTURE MODELS

06211 NATURAL TRITIUM IN GROUNDWATER STUDIES.
GROUND WATER HYDROLOGY ICELAND RAINOUT FALLOUT
CONCENTRATION

06212 TRITIUM HYDROLOGY IN NEW ZEALAND.
HYDROLOGY NEW ZEALAND RAINWATER CONCENTRATION
SURFACE WATERS GROUND WATER MOVEMENT TRACERS

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE
SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM
ACTIVITY IN THE SOUTHWEST OF FRANCE). RAINWATER
FRANCE GROUND WATER LAKES SEASONAL VARIATIONS
PERIODIC VARIATIONS

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT
OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA.
SEASONAL VARIATIONS PERIODIC VARIATIONS
PRECIPITATION (METEOROLOGICAL) GROUND WATER
AUSTRIA KARST MIXING MODELS SURFACE WATERS
CONCENTRATION

06218 TRITIUM CONTENT AS AN INDICATOR OF AGE AND
MOVEMENT OF GROUND WATER IN THE ROSWELL BASIN, NEW
MEXICO. MOVEMENT AGE TRACERS NEW MEXICO
CONCENTRATION GROUND WATER

06233 WATER TRACING IN THE HYDROLOGIC CYCLE.
O-18 C-14 TRACERS TRANSPORT ASIA
HYDROLOGICAL CYCLING MOVEMENT CIRCULATION
DISTRIBUTION FALLOUT GROUND WATER
EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS PERIODIC VARIATIONS
NORTH AMERICA SOUTH AMERICA EUROPE
MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS
DEUTERIUM

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT
THE NATIONAL REACTOR TESTING STATION, IDAHO.
TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER
FLOW RATES WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL IDAHO

NATIONAL REACTOR TESTING STATION CONCENTRATION
TRANSPORT BASALT IGNEOUS ROCK ROCK

06235 LARGE-SCALE UTILIZATION OF TRITIUM IN
HYDROLOGIC STUDIES. TRACERS CIRCULATION MIXING
GROUND WATER HYDROLOGICAL CYCLING SURFACE WATERS

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN
SOIL WATER. FRACTIONATION SOIL MOISTURE
DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION
TRACERS GROUND WATER SURFACE WATERS CLAYS
SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE
ISOTOPE EXCHANGE MONTMORILLONITE

06245 CONTINENTAL WATER BALANCE, GROUND WATER
INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING
RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS
FROM COSMIC RAY AND MAN-MADE TRITIUM.
WATER BALANCE GROUND WATER RESIDENCE TIME
OCEANS MIXING RADIATION NORTH AMERICA RAINOUT
TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW
DEPOSITION HYDROLOGY COSMIC RADIATION
CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06252 THE GEOCHEMISTRY OF TRITIUM.
PRECIPITATION (METEOROLOGICAL)
NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY
GROUND WATER SURFACE WATERS ATLANTIC OCEAN
METEOROLOGY RAINWATER OCEANOGRAPHY MIXING
RUNOFF CIRCULATION COSMIC RADIATION RADIATION
THERMOCLINE PRODUCTION RATE SEA WATER

06254 AN EVALUATION OF GROUND-WATER TRACERS.
GROUND WATER TRACERS CHLORIDES DYES
FLUORESCENCE IN-131 CA-40 CA-45 SOILS TRANSPORT
VELOCITY TRITIATED WATER

06255 THE MEASUREMENT OF TRITIUM ACTIVITY IN
NATURAL WATERS 1 TECHNIQUES.
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
GROUND WATER T/H RATIO EQUIPMENT INSTRUMENTS

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT
ENVIRONMENTAL RADIATION RADIATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
COOLING WATER RIVERS RADIATION EXPOSURE
COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES
WASTES

06265 GROUNDWATER STUDIES IN THE SABI VALLEY,
RHODESIA, USING NATURAL TRITIUM MEASUREMENTS.
GROUND WATER RADIOACTIVE AGE DETERMINATION
TRACERS MOVEMENT SABI VALLEY RHODESIA

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL
ELEMENTS AS A GROUND-WATER TRACER.
RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES
WASTE DISPOSAL WASTES MOVEMENT GROUND WATER
TRACERS STREAMS SAVANNAH RIVER PLANT

06267 AQUIFER STORAGE DETERMINATION BY
RADIOTRACER TECHNIQUES. TRACERS WATER STORAGE
AQUIPERS MODELS MATHEMATICAL MODELS
GROUND WATER CONCENTRATION

06268 TRITIUM DISTRIBUTION IN GROUND WATER AROUND
LARGE UNDERGROUND FUSION EXPLOSIONS.
UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS
NUCLEAR EXPLOSIONS GROUND WATER
FLOWSHARE PROGRAM DISTRIBUTION TRITIATED WATER

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND
GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY
TRITIUM TRACING. TRACERS ROCK QUERCUS
FAGACEAE PLANTS TREES ROOTS GROUND WATER
ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER
HYDROGEOLOGY

06287 THE CURRENT TRITIUM CONTENTS OF NATURAL
WATERS. PLANTS SOVIET UNION WATER VAPOR GASES
PRECIPITATION (METEOROLOGICAL) LAKES RIVERS
GROUND WATER CONCENTRATION

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK
RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS
CANADA PERCH LAKE RADIOACTIVE WASTES WASTES
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES
GROUND WATER TRITIATED WATER

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA
ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY
AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS
LONG SHOT CONTAMINATION SURFACE WATERS
GROUND WATER MOVEMENT

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY.
HYDROLOGY CANADA DEPOSITION RAINFALL
PRECIPITATION (METEOROLOGICAL) GROUND WATER
HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS
EVAPORATION FRACTIONATION STORAGE RETENTION

06346 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, ANCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT ANCHITKA ISLAND ALASKA EXPLOSIONS ALBUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

06364 MEASURING GROUND WATER MOVEMENT WITH RADIOACTIVE AND CHEMICAL TRACERS. TRACERS MOVEMENT HYDROLOGY TRITIATED WATER GROUND WATER

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE FLOWSHARE PROGRAM

06399 GROUND WATER CONTAMINATION PREDICTIONS. CONTAMINATION SAFETY NUCLEAR EXPLOSIONS EXPLOSIONS FISSION PRODUCTS RADIOACTIVE WASTE DISPOSAL GROUND WATER CONCENTRATION

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON RELEASE TO THE ENVIRONMENT. NUCLEAR REACTORS ENVIRONMENTAL RADIATION SURFACE WATERS RADIATION TRITIATED WATER NUCLEAR POWER INDUSTRY GROUND WATER HYDROLOGICAL CYCLING

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN FLOWSHARE PROGRAM NEVADA TEST SITE

06461 FISSION PRODUCT TRITIUM IN SEPARATIONS WASTES AND IN THE GROUND WATER. CONTAMINATION GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL COLUMBIA RIVER

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06475 TRITIUM IN NEW YORK STATE WATERS, 1965. NEW YORK RIVERS LAKES SAMPLING CONCENTRATION GROUND WATER

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. MONITORING ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210 RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER MIAMI RIVER

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ENVIRONMENTAL RADIATION RADIATION MONITORING PLUTONIUM POLONIUM RIVERS GROUND WATER ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION SR-90 RU-106 CONTAMINATION GROUND WATER TC-99 RADIOACTIVE DECAY CS-137 LEACHING

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA. TRANSPORT RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIOACTIVE TRACERS TRACERS SOILS TRITIATED WATER MOVEMENT GROUND WATER

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER CONTAMINATION RADIATION HANFORD PROJECT RADIOACTIVE WASTE DISPOSAL BETA RADIATION RH-RU-106 WASTE DISPOSAL AQUIPERS SR-90 CS-137

06610 TRACING GROUNDWATER WITH CHLORIDE IONS AND TRITIUM THROUGH ACID KAOLINITIC SOIL. CHLORIDES INORGANIC COMPOUNDS GROUND WATER TRACERS SOILS KAOLINITE

06612 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER 1966. RU-106 GROUND WATER CONTAMINATION HANFORD PROJECT AQUIPERS CONCENTRATION

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW AT THE SAVANNAH RIVER PLANT. GROUND WATER SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT TRACERS TRITIATED WATER MOVEMENT RADIOACTIVE WASTES

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA. WELLS AQUIPERS IRRIGATION GROUND WATER CALIFORNIA VELOCITY NUCLEAR TESTING MOVEMENT

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL CHROMIUM GROUND WATER SURFACE WATERS AQUIPERS RADIOACTIVE WASTES TRACERS

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL SR-90 GROUND WATER SURFACE WATERS AQUIPERS RADIOACTIVE WASTES

06626 TRANSPORT OF RADIONUCLIDES BY GROUND WATER-SOME THEORETICAL ASPECTS. GROUND WATER TRANSPORT ROCK NEVADA TEST SITE TRACERS

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS. RADIOACTIVE WASTE DISPOSAL GLASS LEACHING SR-90 CS-137 SOILS SAND GROUND WATER

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING ENVIRONMENTAL RADIATION RADIATION PRECIPITATION (METEOROLOGICAL) GROUND WATER SAMPLING METEOROLOGY C-14 SI-32

06793 CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS, JANUARY-DECEMBER, 1964. HANFORD PROJECT GROUND WATER MONITORING ISOCONCENTRATION LINES CONCENTRATION BETA RADIATION RADIOACTIVE WASTES

06807 MANAGEMENT OF FISSION PRODUCT TRITIUM IN FUEL PROCESSING WASTES. RECYCLING DECONTAMINATION SURFACE WATERS GROUND WATER NUCLEAR FUEL PLANTS RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06811 ENVIRONMENTAL TRITIUM IN CONJUNCTIVE USE STUDIES OF CONTINENTAL RIVER SYSTEMS. TRACERS GROUND WATER SURFACE WATERS HYDROGEOLOGIC ANALYSIS MOVEMENT

06814 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JANUARY-JUNE, 1969. RU-106 GROUND WATER HANFORD PROJECT CONCENTRATION

06821 RADIOACTIVITY IN WATER - PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM MESASERDE FORMATION RADIOACTIVITY CONCENTRATION GUIDES GROUND WATER TRANSPORT

06834 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION. RADIOACTIVE WASTES RADIATION NATIONAL REACTOR TESTING STATION GROUND WATER RADIOACTIVE WASTE DISPOSAL

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CE-141 CE-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06857 TRITIUMGEHALTE IM WASSER TIEFERER GRUNDWASSERSTOCKWERKE (TRITIUM CONTENT OF WATER IN DEEP GROUNDWATER BASINS). AQUIPERS GROUND WATER

06867 TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS OF THE U S GEOLOGICAL SURVEY RESEARCH PROGRAM. AQUIPERS GROUND WATER RADIOACTIVE DECAY HALF-LIFE HYDROLOGICAL CYCLING HYDROLOGY FALLOUT

06873 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER, GROUND WATER AND HOT SPRING. CITY WATER GROUND WATER HOT SPRINGS ELECTROLYTIC ENRICHMENT PRECIPITATION (METEOROLOGICAL) RAINFALL

06881 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06902 TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN WATER - INSTRUMENTATION. ENVIRONMENTS RAINWATER SEA WATER SURFACE WATERS GROUND WATER HAWAII

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

06981 TRITIUM IN COMMUNITY WATER SUPPLIES, 1969. CONCENTRATION COMMUNITY WATER SUPPLIES RADIATION DOSE GROUND WATER SURFACE WATERS UNITED STATES SAMPLING

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07004 BIBLIOGRAPHY ON TRITIUM IN GROUNDWATER AND AS GROUNDWATER TRACER (1964-1965). GROUND WATER BIBLIOGRAPHY TRACERS HYDROLOGY

07029 SOME CONSIDERATIONS ON TRITIUM DATING AND THE ESTIMATES OF TRITIUM INPUT FUNCTION. RADIOACTIVE AGE DETERMINATION GROUND WATER HYDROLOGY CONCENTRATION PRECIPITATION (METEOROLOGICAL) RESIDENCE TIME

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07056 THE PERCH LAKE EVAPORAON STUDY. RADIOACTIVE TRACERS TRACERS MOVEMENT HYDROLOGICAL CYCLING TRITIATED WATER VAPOR EVAPORATION TRITIATED WATER GROUND WATER WATER SURFACE WATERS

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE NATURAL WATER OF SOUTHERN OAHU, HAWAII. CONCENTRATION RAINWATER GROUND WATER HAWAII TRITIATED WATER ELECTROLYTIC ENRICHMENT LIQUID SCINTILLATION COUNTING

07083 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963. CONCENTRATION GROUND WATER HANFORD PROJECT WASTES CONTAMINATION RADIOACTIVE WASTES

07089 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY- JUNE, 1968. GROUND WATER CONTAMINATION CONCENTRATION MAXIMUM PERMISSIBLE CONCENTRATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL AQUIPERS HANFORD PROJECT RU-106

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER FLOWSHARE PROGRAM MOVEMENT CONTAMINATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS TRANSPORT GASES DIFFUSION KR-85 DIFFUSION EQUATION EQUATIONS

07095 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT JULY- DECEMBER 1969. CONCENTRATION GROUND WATER CR-51 HANFORD PROJECT NITRATE IONS RU-106

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. GROUND WATER CHLORIDES CONCENTRATION CIRCULATION DILUTION NEW ZEALAND MIXING TRITIATED WATER BORES GEOTHERMAL WATERS

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1963. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. CONCENTRATION GROUND WATER MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE CLAYS SOILS PERMEABILITY

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA. GROUND WATER SOUTH AFRICA AQUIPERS PRECIPITATION (METEOROLOGICAL) RECHARGE HYDROLOGICAL CYCLING CONCENTRATION

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. C-14 GROUND WATER AQUIPERS HYDROLOGY RECHARGE HYDROLOGIC MODELS MODELS SOUTH AFRICA

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. O-18 ALPS CONCENTRATION SPRINGS SEASONAL VARIATIONS RECHARGE GROUND WATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

07175 COMPARISON OF HYDROLOGICAL AND MATHEMATICAL METHODS IN ANALYSIS OF TRITIUM DATA. MODELS HYDROLOGIC MODELS HYDROLOGY MATHEMATICAL ANALYSIS SPRINGS GROUND WATER

07181 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING WASTE. RADIOACTIVE WASTES NUCLEAR FUEL PLANTS MOVEMENT SOILS GROUND WATER CONTAMINATION CONCENTRATION RADIOACTIVE WASTE DISPOSAL HANFORD PROJECT

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY FLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

GROWTH

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS. C-14 SOYBEANS CROPS LEGUMES PLANTS GROWTH RADIATION EFFECTS

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS GROWTH TRITIUM OXIDE RADIATION EFFECTS

06427 MEASUREMENT OF S PERIOD IN GROWING CELL POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE LABELING WITH H-3- AND C-14-THYMIDINE. C-14 TAGGING GROWTH THYMIDINE AMINO ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS

06663 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E COLI)). TRITIATED WATER BACTERIOPHAGES RADIATION BETA RADIATION MICROORGANISMS HOSTS BACTERIA GROWTH RADIATION EFFECTS

06928 PROGRESS REPORT (ON THE USE OF TRITIATED THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN THE STUDY OF LATERAL ROOT INITIATION), 1965-1966. TRITIATED THYMIDINE TRITIATED WATER ROOTS SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES RADIATION EFFECTS

GROWTH RATE

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

06677 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE TRITIATED WATER MAMMALIAN CELLS CELLS CULTURE MEDIUM DOSE RATES RADIATION RADIATION EFFECTS GROWTH RATE

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

GROWTH RINGS

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968, BIOLOGY AND HEALTH PHYSICS DIVISION. ATMOSPHERE (TERRESTRIAL) CANADA RIVERS GROWTH RINGS SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS DEPOSITION STRATOSPHERE TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS. C-14 TREES PLANTS RAINWATER TROPOSPHERE ATMOSPHERE (TERRESTRIAL) STRATOSPHERE GROWTH RINGS CONCENTRATION

06460 NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS. C-14 KR-85 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES PLANTS RAINWATER CONCENTRATION

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

GUINEA-PIG

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

GULF OF SAN MIGUEL

06382 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. SEA WATER NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT COLOMBIA GULF OF SAN MIGUEL ISOTOPE EXCHANGE SPECIFIC ACTIVITIES

HABITATS

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

HALF-LIFE

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN AGE TEMPERATURE WATER HALF-LIFE ANALYSIS SAVANNAH RIVER PLANT

04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE SEDIMENTS AND MARINE ORGANISMS. SEA WATER SEDIMENTS MARINE BIOLOGY HALF-LIFE DISTRIBUTION CONCENTRATION RADIOACTIVITY ENVIRONMENTS

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT. HALF-LIFE EFFECTIVE HALF-LIFE ASSIMILATION MAN BIOLOGICAL HALF-LIFE TEMPERATURE WEIGHT AGE

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY. CO-60 ACCIDENTS ELIMINATION HALF-LIFE MAN BIOLOGICAL HALF-LIFE RADIATION EXPOSURE RADIATION DOSE

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD ELIMINATION TRITIATED WATER RADIATION DOSE DOSE RATES MAN

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPODOMYS DESERTI WITH TRITIATED WATER. BODY WATER BODY FLUIDS KANGAROO RATS RODENTS MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION XEROPHIL METABOLISM

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER. 1 GROSS STUDIES ON METABOLISM MICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION 1-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06263 BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE HALF-LIFE MAN BODY WATER

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06367 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. RIVERS WATER TRANSPORT MATHEMATICAL MODELS MODELS HALF-LIFE HYDROLOGY

06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS URINE ANALYSIS SAVANNAH RIVER PLANT

06867 TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS OF THE U S GEOLOGICAL SURVEY RESEARCH PROGRAM. AQUIFERS GROUND WATER RADIOACTIVE DECAY HALF-LIFE HYDROLOGICAL CYCLING HYDROLOGY FALLOUT

06869 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY;

18-19 OCTOBER 1962. BIOLOGICAL HALF-LIFE TRITIATED WATER MAN BODY WEIGHT AGE TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE BIOASSAY

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE PECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

06976 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED FOLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED FOLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS. RADIOLOGICAL HAZARDS HEAVY WATER REACTORS NUCLEAR REACTORS CONCENTRATION ASSIMILATION URINE BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. TRITIUM OXIDE RADIATION EFFECTS TOXICITY BIOLOGICAL EFFECTS DOGS METABOLISM BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE EXCRETION

07065 HALF-LIVES OF H-3 AND PU-238. PU-238 HALF-LIFE RADIOACTIVE DECAY

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

07160 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

HAMSTERS

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

HANFORD PROJECT

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING
RADIATION DOSE DOSE ESTIMATION GROUND WATER
FALLOUT ATMOSPHERIC NUCLEAR TESTING
NUCLEAR TESTING RADIOACTIVE WASTES

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1965 APPENDICES
HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS
CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS
CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS
OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS
PELECYPODA MILK COLUMBIA RIVER RIVERS
TRANSPORT 1-131 SR-90 NA-24 P-32 CR-51 CU-64
ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58
CO-60 CS-137 ZR-NB-95 CB-PR-144 DAIRY PRODUCTS
PASTURES LIVESTOCK COWS K-40 GRASSLANDS
THYROID GLAND DOMESTIC ANIMALS ORGANS

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1965 HANFORD PROJECT
ENVIRONMENTAL RADIATION RADIATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
COOLING WATER RIVERS RADIATION EXPOSURE
COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES
WASTES

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES
THROUGH SEDIMENTS UNDERLYING THE HANFORD
RESERVATION HANFORD PROJECT WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION
SR-90 RU-106 CONTAMINATION GROUND WATER TC-99
RADIOACTIVE DECAY CS-137 LEACHING

06608 EARTH SCIENCES WASTE DISPOSAL
INVESTIGATIONS, JULY-DECEMBER 1966 GROUND WATER
CONTAMINATION RADIATION HANFORD PROJECT
RADIOACTIVE WASTE DISPOSAL BETA RADIATION
RH-RU-106 WASTE DISPOSAL AQUIPERS SR-90 CS-137

06612 RADIOLOGICAL STATUS OF THE GROUND WATER
BENEATH THE HANFORD PROJECT, JULY-DECEMBER 1966
RU-106 GROUND WATER CONTAMINATION
HANFORD PROJECT AQUIPERS CONCENTRATION

06793 CHEMICAL EFFLUENTS TECHNOLOGY WASTE
DISPOSAL INVESTIGATIONS, JANUARY-DECEMBER, 1964
HANFORD PROJECT GROUND WATER MONITORING
ISOCONCENTRATION LINES CONCENTRATION
BETA RADIATION RADIOACTIVE WASTES

06814 RADIOLOGICAL STATUS OF THE GROUND WATER
BENEATH THE HANFORD PROJECT, JANUARY-JUNE, 1966
RU-106 GROUND WATER HANFORD PROJECT
CONCENTRATION

06881 EARTH SCIENCES WASTE DISPOSAL
INVESTIGATIONS, JANUARY-JUNE, 1967 SR-90
CS-137 RH-RU-106 HANFORD PROJECT
GAMMA RADIATION ALPHA RADIATION BETA RADIATION
RADIATION WELLS GROUND WATER RADIOACTIVE WASTES
RADIOACTIVE WASTE DISPOSAL

06892 RADIOLOGICAL STATUS OF THE GROUND WATER
BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967
GROUND WATER RADIOACTIVE WASTE DISPOSAL
WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT
WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION
RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

07083 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1963 CONCENTRATION
GROUND WATER HANFORD PROJECT WASTES
CONTAMINATION RADIOACTIVE WASTES

07089 RADIOLOGICAL STATUS OF THE GROUND WATER
BENEATH THE HANFORD PROJECT, JANUARY-JUNE, 1966
GROUND WATER CONTAMINATION CONCENTRATION
MAXIMUM PERMISSIBLE CONCENTRATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
AQUIPERS HANFORD PROJECT RU-106

07095 RADIOLOGICAL STATUS OF THE GROUND WATER
BENEATH THE HANFORD PROJECT JULY- DECEMBER 1966
CONCENTRATION GROUND WATER CR-51
HANFORD PROJECT NITRATE IONS RU-106

07115 THE USE OF WATER AS A SAMPLING MEDIUM FOR
TRITIUM OXIDE BETA RADIATION HANFORD PROJECT
ENVIRONMENTAL MONITORING OXIDES SAMPLING
TRITIUM OXIDE CONTAMINATION

07123 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1966 APPENDICES
ENVIRONMENTAL MONITORING HANFORD PROJECT
CONCENTRATION COLUMBIA RIVER RIVERS

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1966 CONCENTRATION
COLUMBIA RIVER HANFORD PROJECT P-32
ENVIRONMENTAL MONITORING CR-51 ZN-65 1-131

SR-90

07161 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING
WASTE RADIOACTIVE WASTES NUCLEAR FUEL PLANTS
MOVEMENT SOILS GROUND WATER CONTAMINATION
CONCENTRATION RADIOACTIVE WASTE DISPOSAL
HANFORD PROJECT

HAWAII

06902 TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN
WATER - INSTRUMENTATION ENVIRONMENTS RAINWATER
SEA WATER SURFACE WATERS GROUND WATER HAWAII

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE
NATURAL WATER OF SOUTHERN OAHU, HAWAII
CONCENTRATION RAINWATER GROUND WATER HAWAII
TRITIATED WATER ELECTROLYTIC ENRICHMENT
LIQUID SCINTILLATION COUNTING

HAZARDS

06492 THE RADIATION HAZARD TO WORKERS USING
TRITIATED LUMINOUS COMPOUNDS
MAXIMUM PERMISSIBLE CONCENTRATION
CHEMICAL COMPOUNDS HAZARDS URINE MAN
INHALATION TRITIATED WATER VAPOR TRITIATED WATER
TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS
BODY BURDEN

06599 TRITIUM HAZARDS, A GENERAL LECTURE FOR
THOSE WHO WORK AROUND HEAVY WATER OXIDES
HAZARDS WHOLE BODY EXPOSURE ABSORPTION
RADIATION EXPOSURE
MAXIMUM PERMISSIBLE CONCENTRATION SAFETY
TRITIUM OXIDE EXCRETION

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES
MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM-
DOSAGE, PREPARATION OF LABELLED MOLECULES AND
BIOLOGICAL APPLICATIONS) TAGGING
CHEMICAL REACTIONS ANALYSIS
RADIOCHEMICAL ANALYSIS BIOCHEMISTRY
CHEMICAL ANALYSIS ISOTOPE EXCHANGE
TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY
HAZARDS CHEMICAL SYNTHESIS

06628 REMOTE TRITIUM AIR MONITORING SYSTEM
WHOLE BODY EXPOSURE RADIATION EXPOSURE
SAVANNAH RIVER PLANT HAZARDS ABSORPTION
CLOTHING TRITIUM OXIDE ENVIRONMENTAL MONITORING

06817 REVIEW OF SANDIA SYMPOSIUM ON
INSTRUMENTATION, EXPERIENCE, AND PROBLEMS IN
HEALTH PHYSICS TRITIUM CONTROL HAZARDS
INSTRUMENTS PROTECTIVE EQUIPMENT EQUIPMENT

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS
ASSOCIATED WITH ACUTE EXPOSURE TO HIGH
CONCENTRATIONS OF TRITIUM GAS TRITIATED WATER
RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES
BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION
WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS
GAS-GRAPHITE REACTORS HEAVY WATER REACTORS
LATINA REACTOR NUCLEAR REACTORS ACTIVATION
HAZARDS TRITIATED WATER RADIOLOGICAL HAZARDS

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY
WATER MODERATED REACTORS RADIOLOGICAL HAZARDS
HEAVY WATER REACTORS NUCLEAR REACTORS
CONCENTRATION ASSIMILATION URINE
BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

07076 TRITIUM CONTAMINATION IN PARTICLE
ACCELERATOR OPERATION HEALTH HAZARDS HAZARDS
RADIOLOGICAL HAZARDS CONTAMINATION
PARTICLE ACCELERATORS

HEALTH HAZARDS

07076 TRITIUM CONTAMINATION IN PARTICLE
ACCELERATOR OPERATION HEALTH HAZARDS HAZARDS
RADIOLOGICAL HAZARDS CONTAMINATION
PARTICLE ACCELERATORS

07114 HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM
BIBLIOGRAPHY HEALTH HAZARDS
ENVIRONMENTAL MONITORING DOSIMETRY
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
RADIATION EXPOSURE PHYSIOLOGY

HEALTH PHYSICS RESEARCH REACTOR

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS
REPORT FOR PERIOD ENDING JULY 31, 1965
RADIOACTIVE WASTE DISPOSAL
HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY
RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON
STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER
FOOD-CHAINS MAN INTERNAL EXPOSURE

HEART

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

HEAT CAPACITY

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE. THERMODYNAMICS HEAT CAPACITY ENTROPY ENERGY TRITIUM HYDRIDE RADIOACTIVITY DISSOCIATION THERMODYNAMIC EQUILIBRIUM

HEAVY WATER

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. TRITIUM OXIDE RADIATION HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS NUCLEAR REACTORS

HEAVY WATER REACTORS

06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS. GAS-GRAPHITE REACTORS HEAVY WATER REACTORS LATINA REACTOR NUCLEAR REACTORS ACTIVATION HAZARDS TRITIATED WATER RADIOLOGICAL HAZARDS

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. TRITIUM OXIDE RADIATION HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS NUCLEAR REACTORS

06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. HEAVY WATER REACTORS TRITIUM PERMEABILITY POLYVINYL CHLORIDE POLYMER FILMS TRITIATED WATER RADIOLOGICAL HAZARDS NUCLEAR REACTORS

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS. RADIOLOGICAL HAZARDS HEAVY WATER REACTORS NUCLEAR REACTORS CONCENTRATION ASSIMILATION URINE BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

HELIANTHUS

06368 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. FLOWERING PLANTS WATER VAPOR HELIANTHUS PLANTS NICOTIANA GASES TISSUES MOVEMENT DISTRIBUTION TRITIATED WATER TRANSPIRATION

06875 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION. TRITIATED WATER ROOT SYSTEM ROOTS PLANTS HELIANTHUS TRANSPIRATION UPTAKE FLOWERING PLANTS

HEPATIC LIPOGENESIS

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS FATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

HE-3

06402 TRITIUM IN NATURE. SURFACE WATERS NORWAY COSMIC RADIATION HE-3 RADIATION DEUTERIUM

0640 TRITIUM AND HELIUM-3 IN SOLAR FLARES AND LOSS OF HELIUM FROM THE EARTH'S ATMOSPHERE. HE-3 SOLAR FLARES

HG-203

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131

CS-137 TE-132 CS-136 NA-24 P-32 SC-46 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

HONEY BEE

06862 EINBAU VON H-3-D-GLUCOSE WAHREND DER OOGENSESE BEI APIS MELLIFICA L (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENSESIS IN APIS MELLIFICA L). TRITIATED GLUCOSE GLYCOGEN HONEY BEE INSECTS INSECT OOGENSESIS REPRODUCTION

HORSES

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

HOSTS

06863 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E COLI)). TRITIATED WATER BACTERIOPHAGES RADIATION BETA RADIATION MICROORGANISMS HOSTS BACTERIA GROWTH RADIATION EFFECTS

HOT SPRINGS

06873 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER, GROUND WATER AND HOT SPRING. CITY WATER GROUND WATER HOT SPRINGS ELECTROLYTIC ENRICHMENT PRECIPITATION (METEOROLOGICAL) RAINFALL

HTO/SR-90 RATIO

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. SR-90 DISTRIBUTION DEPOSITION FALLOUT SAMPLING ATMOSPHERE (TERRESTRIAL) HTO/SR-90 RATIO

HUMIC ACIDS

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

HUMIDITY

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER. TRITIATED WATER INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR TRITIATED WATER VAPOR SKIN

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18 WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

HURRICANES

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON HILDA 1964 AND BETSY 1965. DESTRUCTIVE FACTORS WATER VAPOR SEA WATER SALT WATER STORMS HURRICANES GASES CONCENTRATION

07016 HURRICANE TRITIUM III; EVAPORATION OF SEA WATER IN HURRICANE FAITH 1966. TRITIATED WATER HURRICANES DESTRUCTIVE FACTORS EVAPORATION SEA WATER RADIAL DISTRIBUTION RAINFALL DISTRIBUTION EQUATIONS METEOROLOGY

HYDROCARBONS

06420 ON THE MECHANISM OF THE SELF-INDUCED EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC HYDROCARBONS. TAGGING CHEMICAL REACTIONS EXCHANGE REACTIONS ORGANIC COMPOUNDS HYDROCARBONS TRITIATED COMPOUNDS

HYDRODYNAMICS

06213 OXYGENE-18 ET TRITIUM DANS LE BASSIN DEVIAN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). O-18 HYDRODYNAMICS FRANCE SAMPLING WATER TABLE HYDROLOGY TRACERS

HYDROGEN

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE MIXING RETENTION

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE AND SOURCES OF TRITIATED METHANE. HYDROGEN GASES METHANE NUCLEAR POWER INDUSTRY T/H RATIO ATMOSPHERE (TERRESTRIAL) TRITIATED METHANE

06241 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN GASES DEUTERIUM GERMANY

06354 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. HYDROGEN GASES METHANE ATMOSPHERE (TERRESTRIAL)

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE. CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM METABOLISM

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06419 HYDROGEN EXCHANGE IN PROTEINS. PROTEINS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GASES POLYPEPTIDES ISOTOPE EXCHANGE HYDROGEN

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06614 A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE. ACCIDENTS ATMOSPHERE (TERRESTRIAL) GASES HYDROGEN TRITIATED HYDROGEN WINDSCALE NUCLEAR REACTORS

06693 TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN FALLOUT RH-102 TROPOSPHERE STRATOSPHERE DEUTERIUM NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1969. PLOWSHARE PROGRAM TRITIATED WATER SHALE DISTRIBUTION CANE THERMAL ANALYSIS NATURAL GAS HYDROGEN CONTAMINATION

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN

FRANCE). ATMOSPHERE (TERRESTRIAL) LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS PERIODIC VARIATIONS

06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER. DEUTERIUM HYDROGEN RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). DETECTION RADIATION WATER VAPOR METHANE ORGANIC GASES PROPORTIONAL COUNTER MONITORING BETA RADIATION HYDROGEN

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE CRITICAL POINT OF HYDROGEN, DEUTERIUM, AND TRITIUM, AND THEIR DIATOMIC COMBINATIONS. DEUTERIUM HYDROGEN GASES VAPOR PRESSURE COEFFICIENTS TEMPERATURE CONSTANTS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY PLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

HYDROGEN BUDGET

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

HYDROGEN DIFFUSION

06941 RISQUES PRESENTES PAR LA DIFFUSION DE GRANDES QUANTITES DE TRITIUM DANS L'ATMOSPHERE (DANGERS PRESENTED BY THE DIFFUSION OF LARGE QUANTITIES OF TRITIUM IN THE ATMOSPHERE). HYDROGEN DIFFUSION DIFFUSION ISOTOPIC DIFFUSION ISOTOPE EXCHANGE WATER VAPOR MAXIMUM PERMISSIBLE CONCENTRATION

HYDROGENATION

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL SUSPENSIONS. CHEMICAL REACTIONS ENZYMES BACTERIA PLANTS MICROORGANISMS BIOLOGICAL FIXATION HYDROGENATION

HYDROGEOLOGIC ANALYSIS

06811 ENVIRONMENTAL TRITIUM IN CONJUNCTIVE USE STUDIES OF CONTINENTAL RIVER SYSTEMS. TRACERS GROUND WATER SURFACE WATERS HYDROGEOLOGIC ANALYSIS MOVEMENT

HYDROGEOLOGY

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES EFFETUEES AU CENTRE D'ETUDES NUCLEAIRES DE GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE NUCLEAR RESEARCH CENTRE). HYDROLOGY SAMPLING FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL) KARST CONCENTRATION TRACERS HYDROGEOLOGY

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROGEOLOGY

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

HYDROLOGIC MODELS

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. CONCENTRATION GROUND WATER MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE CLAYS SOILS PERMEABILITY

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. C-14 GROUND WATER AQUIPERS HYDROLOGY RECHARGE HYDROLOGIC MODELS MODELS SOUTH AFRICA

07175 COMPARISON OF HYDROLOGICAL AND MATHEMATICAL METHODS IN ANALYSIS OF TRITIUM DATA. MODELS HYDROLOGIC MODELS HYDROLOGY MATHEMATICAL ANALYSIS SPRINGS GROUND WATER

HYDROLOGICAL CYCLING

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06235 LARGE-SCALE UTILIZATION OF TRITIUM IN HYDROLOGIC STUDIES. TRACERS CIRCULATION MIXING GROUND WATER HYDROLOGICAL CYCLING SURFACE WATERS

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON RELEASE TO THE ENVIRONMENT. NUCLEAR REACTORS ENVIRONMENTAL RADIATION SURFACE WATERS RADIATION TRITIATED WATER NUCLEAR POWER INDUSTRY GROUND WATER HYDROLOGICAL CYCLING

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING ENVIRONMENTAL RADIATION RADIATION PRECIPITATION (METEOROLOGICAL) GROUND WATER SAMPLING METEOROLOGY C-14 SI-32

06867 TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS OF THE U S GEOLOGICAL SURVEY RESEARCH PROGRAM. AQUIPERS GROUND WATER RADIOACTIVE DECAY HALF-LIFE HYDROLOGICAL CYCLING HYDROLOGY FALLOUT

06878 TRITIUM CONCENTRATION IN PRECIPITATION, 1967-1968. ENVIRONMENTS ALTITUDE SEASONAL VARIATIONS HYDROLOGICAL CYCLING PRECIPITATION (METEOROLOGICAL) RAINFALL CONCENTRATION

07056 THE PERCH LAKE EVAPORATION STUDY. RADIOACTIVE TRACERS TRACERS MOVEMENT HYDROLOGICAL CYCLING TRITIATED WATER VAPOR EVAPORATION TRITIATED WATER GROUND WATER WATER SURFACE WATERS

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA SURFACE WATERS PRECIPITATION (METEOROLOGICAL) HYDROLOGICAL CYCLING CONCENTRATION SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS ALASKA GREENLAND

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA. GROUND WATER SOUTH AFRICA AQUIPERS PRECIPITATION (METEOROLOGICAL) RECHARGE HYDROLOGICAL CYCLING CONCENTRATION

HYDROLOGY

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR

RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER. MEASUREMENT C-14 RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY RADIOACTIVE AGE DETERMINATION AGE GROUND WATER AQUIPERS

06190 TRITIUM GEOPHYSICS AS AN INTERNATIONAL RESEARCH PROJECT. GEOPHYSICS HYDROLOGY COSMIC RADIATION METEOROLOGY OCEANOGRAPHY TRACERS

06193 C-14 OCH TRITIUM ISOTOPERNAS FOERBKOMST OVER SKANDINAVIEN UNDER SENARA AR MED TILLAMPNING INOM MARKLABRA OCH HYDROLOGI (THE OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND HYDROLOGY). C-14 SCANDINAVIA HYDROLOGY FALLOUT SURFACE WATERS GROUND WATER MONITORING

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06211 NATURAL TRITIUM IN GROUNDWATER STUDIES. GROUND WATER HYDROLOGY ICELAND RAINOUT FALLOUT CONCENTRATION

06212 TRITIUM HYDROLOGY IN NEW ZEALAND. HYDROLOGY NEW ZEALAND RAINWATER CONCENTRATION SURFACE WATERS GROUND WATER MOVEMENT TRACERS

06213 OXYGEN-18 ET TRITIUM DANS LE BASSIN DEVIEN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). O-18 HYDRODYNAMICS FRANCE SAMPLING WATER TABLE HYDROLOGY TRACERS

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES EFFECTUEES AU CENTRE D'ETUDES NUCLEAIRES DE GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE NUCLEAR RESEARCH CENTRE). HYDROLOGY SAMPLING FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL) KARST CONCENTRATION TRACERS HYDROGEOLOGY

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO FLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06253 THE NATURAL DISTRIBUTION OF TRITIUM. COSMIC RADIATION SURFACE WATERS RADIATION DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES WINES PRODUCTION RATE PRECIPITATION (METEOROLOGICAL) T/H RATIO

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS LONG SHOT CONTAMINATION SURFACE WATERS GROUND WATER MOVEMENT

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

06364 MEASURING GROUND WATER MOVEMENT WITH RADIOACTIVE AND CHEMICAL TRACERS. TRACERS MOVEMENT HYDROLOGY TRITIATED WATER GROUND WATER

06367 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. RIVERS WATER TRANSPORT MATHEMATICAL MODELS MODELS HALF-LIFE HYDROLOGY

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE PLOWSHARE PROGRAM

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS CHEMICAL REACTIONS RADIATION EFFECTS CELLS HYDROLOGY PHYSICS CHEMISTRY TRACERS AUTORADIOGRAPHY BIOLOGICAL SYSTEMS TRITIATED COMPOUNDS

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL CHROMIUM GROUND WATER SURFACE WATERS AQUIFERS RADIOACTIVE WASTES TRACERS

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965 NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL SR-90 GROUND WATER SURFACE WATERS AQUIFERS RADIOACTIVE WASTES

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA SOIL DENSITY NUCLEAR EXCAVATION

06785 LABELING LAKE WATER WITH TRITIUM. LAKE MCILLAN LAKES LABELING TRITIATED WATER TRACERS HYDROLOGY

06809 RADIOACTIVITY IN THE HYDROLOGIC ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT REPORT. WATER MOVEMENT RADIOACTIVITY CONCENTRATION SR-90 PROJECT RULISON HYDROLOGY PLOWSHARE PROGRAM

06815 LE TRITIUM ATMOSPHERIQUE; MESURE ET APPLICATIONS (ATMOSPHERIC TRITIUM; MEASUREMENT AND APPLICATION). ELECTROLYSIS ENRICHMENT THERMAL DIFFUSION GAS COUNTERS SCINTILLATION COUNTERS HYDROLOGY

06867 TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS OF THE U S GEOLOGICAL SURVEY RESEARCH PROGRAM. AQUIFERS GROUND WATER RADIOACTIVE DECAY

HALF-LIFE HYDROLOGICAL CYCLING HYDROLOGY FALLOUT

06871 TRITIUM IN RAINWATER. COSMIC RADIATION RADIATION TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) RAINWATER PRODUCTION RATE HYDROLOGY

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 BU-155 SM-151 CD-113 QD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06966 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

07004 BIBLIOGRAPHY ON TRITIUM IN GROUNDWATER AND AS GROUNDWATER TRACER (1964-1965). GROUND WATER BIBLIOGRAPHY TRACERS HYDROLOGY

07005 ETUDE DE L ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) LAKES DISTRIBUTION FRANCE STRATIFICATION PRECIPITATION (METEOROLOGICAL) TEMPERATURE HYDROLOGY

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. (TRITIUM STUDY OF THE DYNAMICS OF UNDERGROUND WATER) MATHEMATICAL MODELS MODELS TRACERS UNDERGROUND WATER CIRCULATION HYDROLOGY

07029 SOME CONSIDERATIONS ON TRITIUM DATING AND THE ESTIMATES OF TRITIUM INPUT FUNCTION. RADIOACTIVE AGE DETERMINATION GROUND WATER HYDROLOGY CONCENTRATION PRECIPITATION (METEOROLOGICAL) RESIDENCE TIME

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AQ-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIFERS

07138 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY PLOWSHARE PROGRAM KR-85 CONCENTRATION NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1963. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

07171 CONTRIBUTION DES MESURES ISOTOPIQUES A L'ETUDE DE LA FONTAINE DE VAUCLUSE. (CONTRIBUTION OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE FONTAINE DE VAUCLUSE.) C-14 SPRINGS HYDROLOGY FRANCE

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. C-14 GROUND WATER AQUIPERS HYDROLOGY RECHARGE HYDROLOGIC MODELS MODELS SOUTH AFRICA

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. O-18 ALPS CONCENTRATION SPRINGS SEASONAL VARIATIONS RECHARGE GROUND WATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

07175 COMPARISON OF HYDROLOGICAL AND MATHEMATICAL METHODS IN ANALYSIS OF TRITIUM DATA. MODELS HYDROLOGIC MODELS HYDROLOGY MATHEMATICAL ANALYSIS SPRINGS GROUND WATER

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY FLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

7 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM. COSMIC RADIATION METEOROLOGY WATER HYDROLOGY RADIOACTIVE AGE DETERMINATION WATER SUPPLY PLANTS TRACERS

HYDROTHERMAL SOLUTIONS

06884 ORIGIN OF TRITIUM IN HYDROTHERMAL SOLUTIONS. TRITIATED WATER HYDROTHERMAL SOLUTIONS GEOTHERMAL WATERS URANIUM THORIUM

HYPOTONIA

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

ICE

06788 TRITIUM TRACER IN ARCTIC PROBLEMS. TRACERS SEA WATER ICE OCEANS ARCTIC OCEAN MIXING EXCHANGE CONCENTRATION

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL ALTITUDES. TRITIATED WATER ICE SEASONAL VARIATIONS SNOW CONCENTRATION DEPOSITION MT. EVEREST RADIOACTIVE AGE DETERMINATION

ICELAND

06211 NATURAL TRITIUM IN GROUNDWATER STUDIES. GROUND WATER HYDROLOGY ICELAND RAINOUT FALLOUT CONCENTRATION

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1981 - 30 JUNE 1982. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

IDAHO

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

IGNEOUS ROCK

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY;

FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 FE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

ILLINOIS

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS RAINFALL PRECIPITATION (METEOROLOGICAL) AIRBORNE CONTAMINATION CHEMICAL COMPOSITION RADIOACTIVITY

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS; SEVENTH PROGRESS REPORT. VERTICAL DISTRIBUTION DISTRIBUTION TROPOSPHERE CONCENTRATION WATER VAPOR EVAPOTRANSPIRATION MIXING ILLINOIS

ILLINOIS RIVER

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL SUMMARY, 1968. RIVERS WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41 ILLINOIS RIVER DES PLAINES RIVER ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

IMMUNOLOGICAL REACTIVITY

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE. TRITIUM OXIDE IMMUNOLOGICAL REACTIVITY DOGS MAMMALS RADIATION EFFECTS RADIATION DOSE BIOLOGICAL EFFECTS AUTO-ALLERGIC PROCESSES

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

INDIA

05184 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

INDIAN OCEAN

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSPER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

INDIANA

06259 TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC METHANE. ATMOSPHERE (TERRESTRIAL) METHANE GASES GERMANY DEUTERIUM INDIANA

INGESTION

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSPER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

04893 RADIOISOTOPE ABSORPTION AND METHODS OF ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF ENTRY. ABSORPTION ELIMINATION MAN SKIN INGESTION LUNGS GASTROINTESTINAL TRACT CONTAMINATION

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06328 THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN. GASTROINTESTINAL TRACT MAN URINE INGESTION ABSORPTION BLOOD TRANSFER TRITIATED WATER

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA PLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07182 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

INHALATION

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06251 AGE-DEPENDENT MODELS FOR ESTIMATING

INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

06492 THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS. MAXIMUM PERMISSIBLE CONCENTRATION CHEMICAL COMPOUNDS HAZARDS URINE MAN INHALATION TRITIATED WATER VAPOR TRITIATED WATER TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS BODY BURDEN

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA PLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07102 A RELATION BETWEEN PROTIIUM/TRITIUM AND PROTIIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT 07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIPERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07181 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

INORGANIC COMPOUNDS

06610 TRACING GROUNDWATER WITH CHLORIDE IONS AND TRITIUM THROUGH ACID KAOLINITIC SOIL. CHLORIDES INORGANIC COMPOUNDS GROUND WATER TRACERS SOILS KAOLINITE

INPUT-OUTPUT ANALYSIS

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06228 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. SURFACE WATERS NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN INPUT-OUTPUT ANALYSIS ANALYSIS RESIDENCE TIME

INREM

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

INSECT OOGENESIS

06652 EINBAU VON H-3-D-GLUCOSE WAHREND DER OOGENESE BEI APIS MELLIFICA L (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENESIS IN APIS MELLIFICA L). TRITIATED GLUCOSE GLYCOGEN MONEY BEE INSECTS INSECT OOGENESIS REPRODUCTION

INSECTS

06652 EINBAU VON H-3-D-GLUCOSE WAHREND DER OOGENESE BEI APIS MELLIFICA L (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENESIS IN APIS MELLIFICA L). TRITIATED GLUCOSE GLYCOGEN MONEY BEE INSECTS INSECT OOGENESIS REPRODUCTION

06891 BIO-ORGANIC CHEMISTRY QUARTERLY REPORT; SEPTEMBER-NOVEMBER 1961. DEUTERIUM MUTATIONS DROSOPHILA GENETIC EFFECTS RADIATION EFFECTS DIPTERA INSECTS

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. TRITIATED DIMETHOATE TOXICITY METABOLISM INSECTS ABSORPTION TRITIATED COMPOUNDS

07023 VERWENDUNG VON TRIIERTEM WASSER (THO) ZUR FORTLAUFENDEN REGISTRIERUNG DES TRANSPIRATIONSVORLAUFES BEI INSEKTEN. (USE OF TRITIATED WATER FOR CONTINUOUS REGISTRATION OF INSECT TRANSPIRATION.) TRITIATED WATER INSECTS

TRANSPIRATION BODY WATER RADIOBIOLOGY

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMININE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMININE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

INSTRUMENTS

06226 MONITORING FOR TRITIUM AT LOW LEVELS. ABSORPTION BETA RADIATION RADIATION URINE INSTRUMENTS BODY BURDEN MAN MONITORING TRITIATED WATER

06255 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS I TECHNIQUES. GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS GROUND WATER T/H RATIO EQUIPMENT INSTRUMENTS

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, APRIL 1 TO JUNE 30, 1969. PRECIPITATION (METEOROLOGICAL) RIVERS GASES INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR CANADA TRITIATED WATER

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06295 RECOMMENDED PROCEDURES FOR TRITIUM. BIOASSAY URINE INSTRUMENTS EQUIPMENT

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSIS INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS EQUIPMENT ABSORPTION SKIN PRECIPITATION (METEOROLOGICAL) MAN

06418 PERFORMANCE OF AN AUTOMATIC ANALYSER FOR TRITIUM IN URINE. SCINTILLATION COUNTERS RADIATION EXPOSURE WHOLE BODY EXPOSURE EQUIPMENT INSTRUMENTS URINE

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

06607 A CARBON DIOXIDE COLLECTION ACCESSORY FOR THE RAPID COMBUSTION APPARATUS FOR PREPARATION OF BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION ANALYSIS INSTRUMENTS CARBON DIOXIDE LIQUID SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS TRITIATED WATER

06817 REVIEW OF SANDIA SYMPOSIUM ON INSTRUMENTATION, EXPERIENCE, AND PROBLEMS IN HEALTH PHYSICS TRITIUM CONTROL. HAZARDS INSTRUMENTS PROTECTIVE EQUIPMENT INSTRUMENTS

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE). ATMOSPHERE (TERRESTRIAL) LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS PERIODIC VARIATIONS

07071 INSTRUMENTATION FOR MONITORING OF KR-85 AND H-3 IN NATURAL GAS. MONITORING KR-85 INSTRUMENTS NATURAL GAS

07116 MEANS OF DETECTING AND PROTECTING AGAINST TRITIUM. ATMOSPHERIC TRITIUM CONTAMINATION INSTRUMENTS DETECTION DIFFUSION DECONTAMINATION

INSULIN

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER. FATTY ACIDS ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER BIOCHEMISTRY

INTAKE RATE

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. INTAKE RATE TRITIATED THYMIDINE RADIOTOXICITY TOXICITY MICE RETENTION UPTAKE METABOLISM

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER. TRITIATED WATER INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR TRITIATED WATER VAPOR SKIN

INTERNAL DEPOSITION

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

INTERNAL DOSE

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

INTERNAL EXPOSURE

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

INTERVENTION

06949 L INTERVENTION ET LA DECONTAMINATION DU MATERIEL CONTAMINE AU TRITIUM (INTERVENTION AND DECONTAMINATION OF MATERIAL CONTAMINATED WITH TRITIUM). INTERVENTION DECONTAMINATION

INTRANUCLEAR LABELING

06954 BEISPIELE FUER DEN INTRAZELLULAEREN

TRITIUM-STOFFWECHSEL (EXAMPLES FOR THE INTRACELLULAR TRITIUM METABOLISM). INTRANUCLEAR LABELING CELLS AMINO ACIDS LIPIDS NUCLEIC ACIDS METABOLISM

INVERTEBRATES

06766 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS UPTAKE CONCENTRATION INVERTEBRATES BIOLOGICAL HALF-LIFE

IODINE

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

IONIZATION CHAMBER

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

IONIZATION ENERGY

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

IRELAND

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

IRRADIATION

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ORGANS MICE TRITIATED WATER IRRADIATION SKIN WHOLE BODY EXPOSURE RADIATION EFFECTS

06858 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). METABOLISM TRITIATED WATER MICE LIVER ORGANIC CELL SUBSTANCES BRAIN TISSUES IRRADIATION

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

06928 PROGRESS REPORT (ON THE USE OF TRITIATED THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN THE STUDY OF LATERAL ROOT INITIATION), 1965-1966. TRITIATED THYMIDINE TRITIATED WATER ROOTS SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES RADIATION EFFECTS

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

IRRIGATION

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN PRESNO COUNTY, CALIFORNIA. WELLS AQUIPERS IRRIGATION GROUND WATER CALIFORNIA VELOCITY NUCLEAR TESTING MOVEMENT

IR-192

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 C8-137 MIXED FISSION PRODUCTS S-35 BU-152 BU-154 BU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

ISOCONCENTRATION LINES

06793 CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS, JANUARY-DECEMBER, 1964. HANFORD PROJECT GROUND WATER MONITORING ISOCONCENTRATION LINES CONCENTRATION BETA RADIATION RADIOACTIVE WASTES

ISOMERIZATION

06437 THE MECHANISM OF THE TRIOSEPHOSPHATE ISOMERASE REACTION. CHEMICAL REACTIONS WATER ENZYMES TAGGING TRITIATED WATER ISOMERIZATION MUSCLE

ISOTOPE EFFECT

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

06959 A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS PROG SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER. PROGS AQUATIC LIFE PERMEABILITY COEFFICIENT TRITIATED WATER ISOTOPE EFFECT SKIN TRANSFER

ISOTOPE EFFECT 07103

07102 A RELATION BETWEEN PROTIIUM/TRITIUM AND PROTIIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT 07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIPERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

ISOTOPE EXCHANGE

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER. MEASUREMENT C-14 RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY RADIOACTIVE AGE DETERMINATION AGE GROUND WATER AQUIPERS

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

06362 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. SEA WATER NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT COLOMBIA GULF OF SAN MIGUEL ISOTOPE EXCHANGE SPECIFIC ACTIVITIES

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE. CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM METABOLISM

06419 HYDROGEN EXCHANGE IN PROTEINS. PROTEINS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GASES POLYPEPTIDES ISOTOPE EXCHANGE HYDROGEN

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES

MARQUES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING CHEMICAL REACTIONS ANALYSIS RADIOCHEMICAL ANALYSIS BIOCHEMISTRY CHEMICAL ANALYSIS ISOTOPE EXCHANGE TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY HAZARDS CHEMICAL SYNTHESIS

06941 RISQUES PRESENTES PAR LA DIFFUSION DE GRANDES QUANTITES DE TRITIUM DANS L'ATMOSPHERE (DANGERS PRESENTED BY THE DIFFUSION OF LARGE QUANTITIES OF TRITIUM IN THE ATMOSPHERE). HYDROGEN DIFFUSION DIFFUSION ISOTOPIC DIFFUSION ISOTOPE EXCHANGE WATER VAPOR MAXIMUM PERMISSIBLE CONCENTRATION

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

07086 PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT; I. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN-WATER SYSTEM. NUCLEAR EXPLOSIONS EXPLOSIONS SALT MEDIUM ISOTOPE EXCHANGE EXCHANGE RATE DEUTERIUM WATER

ISOTOPIC DIFFUSION

06941 RISQUES PRESENTES PAR LA DIFFUSION DE GRANDES QUANTITES DE TRITIUM DANS L'ATMOSPHERE (DANGERS PRESENTED BY THE DIFFUSION OF LARGE QUANTITIES OF TRITIUM IN THE ATMOSPHERE). HYDROGEN DIFFUSION DIFFUSION ISOTOPIC DIFFUSION ISOTOPE EXCHANGE WATER VAPOR MAXIMUM PERMISSIBLE CONCENTRATION

I-129

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ENVIRONMENTAL MONITORING STACK EMISSIONS I-129 KR-85 CONCENTRATION AIRBORNE PARTICULATES RADIOACTIVITY

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

I-131

CONCENTRATION SR-90 I-131 NEW YORK

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF FLOWSHARE EVENTS FLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE FLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCEN I-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-60 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1966. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06696 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07058 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION I-131 VEGETATION

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TB-132 CS-136 NA-24 P-32 SC-48 MN-56

W-181 W-185 W-187 PB-203 HQ-203 MAN FOOD-CHAINS DOSE ESTIMATION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWHILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL I-131 PU-239

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. CONCENTRATION COLUMBIA RIVER HANFORD PROJECT P-32 ENVIRONMENTAL MONITORING CR-51 ZN-65 I-131 SR-90

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

JACKSON RIVER

06586 TRACER MEASUREMENT OF STREAM REABRATON. RADIOACTIVE TRACERS EXCHANGE REACTIONS REABRATON DYES KR-85 JACKSON RIVER

JAPAN

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

JURA

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. O-18 ALPS CONCENTRATION SPRINGS SEASONAL VARIATIONS RECHARGE GROUND WATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

KANGAROO RATS

06219 VOLUME AND TURNOVER OF BODY WATER IN
DIPODOMYS DESERTI WITH TRITIATED WATER
BODY WATER BODY FLUIDS KANGAROO RATS RODENTS
MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE
ELIMINATION XEROPHIL METABOLISM

06239 RESIDUAL TRITIUM AT SEDAN CRATER
PRECIPITATION (METEOROLOGICAL) TRANSPIRATION
RADIATION EXPOSURE BODY WATER PLANTS
BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS
MAMMALS RODENTS SOILS THROWOUT
NUCLEAR EXPLOSIONS SEDAN RATS RODENTS
NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS
FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER
BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE
MICE RATS RABBITS RODENTS DOGS MAN HORSES
DOMESTIC ANIMALS LIVESTOCK RETENTION
BODY FLUIDS BODY WATER METABOLISM MAMMALS
TRITIATED WATER KANGAROO RATS

06386 STUDIES ON LIVER DNA IN TRITIATED KANGAROO
RATS LIVING AT SEDAN CRATER LIVER
NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN
BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS
RADIATION EXPOSURE FLOWSHARE PROGRAM
NEVADA TEST SITE KANGAROO RATS

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO
RATS LIVING IN A TRITIATED ENVIRONMENT
KANGAROO RATS RATS RODENTS MAMMALS
RADIATION EXPOSURE BODY WATER TISSUES
SPECIFIC ACTIVITIES RADIATION DOSE
NUCLEAR CRATERS SEDAN FLOWSHARE PROGRAM
CONCENTRATION BIOLOGY DNA HABITATS

KAOLINITE

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN
SOIL WATER. FRACTIONATION SOIL MOISTURE
DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION
TRACERS GROUND WATER SURFACE WATERS CLAYS
SEDIMENTS SOILS DAVISON CLAY KAOLINITE
ISOTOPE EXCHANGE MONTMORILLONITE

06274 SELF-DIFFUSION OF TRITIATED WATER IN
MONTMORILLONITE AND KAOLINITE CLAY DIFFUSION
MONTMORILLONITE KAOLINITE TRACERS CLAYS
SEDIMENTS SOILS DIFFUSION COEFFICIENT
TRITIATED WATER

06610 TRACING GROUNDWATER WITH CHLORIDE IONS AND
TRITIUM THROUGH ACID KAOLINITIC SOIL CHLORIDES
INORGANIC COMPOUNDS GROUND WATER TRACERS SOILS
KAOLINITE

KARST

06215 TRITIUM ET HYDROGEOLOGIE, ETUDES ET MESURES
EFFECTUES AU CENTRE D'ETUDES NUCLEAIRES DE
GRENOBLE (TRITIUM ET HYDROGEOLOGIE, INVESTIGATIONS
AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE
NUCLEAR RESEARCH CENTRE) HYDROLOGY SAMPLING
FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL)
KARST CONCENTRATION TRACERS HYDROGEOLOGY

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT
OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA
SEASONAL VARIATIONS PERIODIC VARIATIONS
PRECIPITATION (METEOROLOGICAL) GROUND WATER
AUSTRIA KARST MIXING MODELS SURFACE WATERS
CONCENTRATION

KIDNEY

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM
EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION
DEER PATS MAMMALS BODY WATER BODY FLUIDS
RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY
SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE
T/H RATIO

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY
FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION
STUDIES. TRITIATED THYMIDINE X-IRRADIATION
RADIATION ORGANS RATS UPTAKE KIDNEY
RADIATION EFFECTS

06861 INTERNE CONTAMINATION MIT TRITIUM (INTERNAL
CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY
LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE
RADIATION EFFECTS RADIATION EXPOSURE

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION
DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH
TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE

TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES
BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER
MAN KIDNEY TESTES LIVER BRAIN MUSCLE
BONE MARROW HALF-LIFE ORGANS

06978 RADIATION DOSES RESULTING FROM THE
ADMINISTRATION OF TRITIATED POLIC ACID AND
TRITIATED WATER TO THE RAT TRITIATED WATER
TRITIATED COMPOUNDS TRITIATED POLIC ACID
DISTRIBUTION RETENTION RATS RODENTS MAMMALS
RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS
TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE
CONCENTRATION DOSE RATES

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF
CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED
WATER TRITIATED WATER IRRADIATION RATS
RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS
RECOVERY STERILITY LITTER SIZE
RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION
RADIATION DOSE BRAIN GONADS HEART KIDNEY
THYMUS LIVER LUNGS

KIDNEY BEANS

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE
AND TRITIUM GAS BY BEAN PLANTS ABSORPTION
METABOLISM KIDNEY BEANS BEANS PH CROPS
LEGUMES PLANTS VEGETABLES RETENTION LIGHT
TRITIUM OXIDE TRITIUM GAS

KRYPTON

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS
REPORT FOR PERIOD ENDING JULY 31, 1965
RADIOACTIVE WASTE DISPOSAL
HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY
RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON
STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER
FOOD-CHAINS MAN INTERNAL EXPOSURE

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC
ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC
RESERVOIRS AR-37 AR-39 C-14 RADIATION
RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS
ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION
KRYPTON XENON

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC
SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966
ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE
ETHANE KRYPTON KR-85 FORMALDEHYDE
PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO
D/H RATIO

KR-85

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO
COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING
TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR
EXPLOSION IN WESTERN COLORADO
UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING
NUCLEAR TESTING TRANSPORT CONTAMINATION
ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY
HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO
FLOWSHARE PROGRAM PROJECT GASBUGGY
PROJECT RULISON

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING
WORLD NUCLEAR POWER ECONOMY KR-85
DOSE ESTIMATION WASHOUT RAINOUT FALLOUT
RADIATION EXPOSURE MODELS INHALATION INGESTION
PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN
REACTOR FUELS REPROCESSING EQUATIONS

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY
PROGRESS REPORT ON THE THEORETICAL EVALUATION OF
CONSUMER PRODUCTS FROM PROJECT GASBUGGY
LIQUID HYDROCARBONS NATURAL GAS WATER GASES
FLOWSHARE PROGRAM KR-85 PROJECT GASBUGGY

06366 ENGINEERING, ECONOMIC, AND SAFETY
EVALUATIONS BODY BURDEN SAFETY
RADIATION EXPOSURE DOSE RATES WASHOUT
TRITIATED WATER KR-85

06363 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN
NATURAL GAS NATURAL GAS WHOLE BODY EXPOSURE
RADIATION EXPOSURE FOODS KR-85
RADIOACTIVE TRACERS TRACERS ENGINEERING
CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06364 APPROACHES TO THE CALCULATION OF
LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL
PURPOSES NUCLEAR EXPLOSIONS EXPLOSIONS KR-85
C-14 MATHEMATICAL ANALYSIS ANALYSIS
MAXIMUM PERMISSIBLE CONCENTRATION

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS PLOWSHARE PROGRAM KR-85 XE-133 AR-37 C-14 VEGETATION PROJECT RULISON

06460 NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS. C-14 KR-85 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES PLANTS RAINWATER CONCENTRATION

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06566 TRACER MEASUREMENT OF STREAM REABRATION. RADIOACTIVE TRACERS EXCHANGE REACTIONS REABRATION DYES KR-85 JACKSON RIVER

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06823 POSSIBLE TECHNIQUES FOR DECONTAMINATION OF NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR EXPLOSION. TRITIATED METHANE TRITIATED ETHANE DECONTAMINATION EXCHANGE REACTIONS GAS WELLS NATURAL GAS KR-85

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND CHEMICAL ANALYTICAL RESULTS. KR-85 AR-37 AR-39 OXIDES PROJECT GASBUGGY CONCENTRATION C-14 TRITIATED WATER

06837 ISOTOPIC STUDIES OF ATMOSPHERIC METHANE, ETHANE, AND KRYPTON. KR-85 TRITIATED METHANE TRITIATED ETHANE ATMOSPHERE (TERRESTRIAL)

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. KR-85 TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE TRITIATED WATER CAVITY GAS PROJECT GASBUGGY PLOWSHARE PROGRAM

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY - GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. NATURAL GAS CONTAMINATION PLOWSHARE PROGRAM KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS FLUSHING DILUTION PROJECT GASBUGGY

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ENVIRONMENTAL MONITORING STACK EMISSIONS I-129 KR-85 CONCENTRATION AIRBORNE PARTICULATES RADIOACTIVITY

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1966. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07071 INSTRUMENTATION FOR MONITORING OF KR-85 AND H-3 IN NATURAL GAS. MONITORING KR-85 INSTRUMENTS NATURAL GAS

07080 PURGING OF NUCLEAR CHIMNEYS. KR-85 UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH PLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER PLOWSHARE PROGRAM MOVEMENT CONTAMINATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS TRANSPORT GASES DIFFUSION KR-85 DIFFUSION EQUATION EQUATIONS

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY PLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07098 ORNL EXPERIMENTS ON THE BEHAVIOR OF TRITIUM DURING HEAD-END PROCESSING OF IRRADIATED REACTOR FUELS. NUCLEAR FUEL PLANTS KR-85 FUEL PROCESSING

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS PLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY PLOWSHARE PROGRAM PLATING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

07138 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY PLOWSHARE PROGRAM KR-85 CONCENTRATION NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07140 A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL. PROJECT GASBUGGY PLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY DOSE EQUIVALENTS RADIATION EXPOSURE KR-85 CONCENTRATION RADIOLOGICAL HAZARDS

K-40

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-85 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

LABELING

06785 LABELING LAKE WATER WITH TRITIUM. LAKE MCILLAN LAKES LABELING TRITIATED WATER TRACERS HYDROLOGY

06801 STUDIES ON THE INCORPORATION OF TRITIATED THYMIDINE IN DEOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS. TRITIATED THYMIDINE MICE DNA LABELING SPECIFIC ACTIVITIES RADIATION EFFECTS METABOLISM

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. TRITIATED ACTINOMYCIN D ANTIBIOTICS OCCYTES NUCLEUS NUCLEOLI DNA LABELING POLYPEPTIDES

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. LABELING TRITIATED THYMIDINE CHROMOSOMES DNA BIOLOGICAL EFFECTS RADIATION EFFECTS RETENTION GENETIC EFFECTS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

LABORATORY METHODS

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

07034 INTERLABORATORY COMPARISON OF ANALYSIS OF TRITIUM IN NATURAL WATERS. RADIOCHEMICAL ANALYSIS LABORATORY METHODS

07082 MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION. LABORATORY METHODS RAINWATER TRACERS METEOROLOGY WATER CIRCULATION ELECTROLYTIC ENRICHMENT MEASUREMENT

LACTOBACILLUS

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

LAKE GENEVA

06997 ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA). RADIOACTIVE TRACERS LAKE GENEVA LAKES TRACERS MIXING

07032 PREMIERS RESULTATS SUR LA TENUE EN TRITIUM DES EAUX DU LAC LEMAN. (PRIMARY RESULTS OF THE TRITIUM CONTENT OF THE WATER OF LAKE LEMAN.) CONCENTRATION LAKE GENEVA LAKES SEASONAL VARIATIONS PERIODIC VARIATIONS

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) TRACERS LAKES MIXING ESTUARIES RADIOACTIVE TRACERS LAKE GENEVA FRANCE RESIDENCE TIME

LAKE MCILLAN

06785 LABELING LAKE WATER WITH TRITIUM. LAKE MCILLAN LAKES LABELING TRITIATED WATER TRACERS HYDROLOGY

LAKE MICHIGAN

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

07187 FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES FROM NUCLEAR POWER PRODUCTION. GREAT LAKES LAKE MICHIGAN NUCLEAR REACTORS NUCLEAR POWER INDUSTRY TRANSPORT CONCENTRATION RADIOACTIVITY

LAKE TAHOE

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT LAKE TAHOE NEVADA TEST SITE CS-137 SR-90 CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES RAINFALL SURFACE WATERS

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. AIR ATMOSPHERIC TRITIUM WATER VAPOR TRANSFER LAKES LAKE TAHOE TRANSFER RATES EQUATIONS

LAKES

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM ACTIVITY IN THE SOUTHWEST OF FRANCE). RAINWATER FRANCE GROUND WATER LAKES SEASONAL VARIATIONS PERIODIC VARIATIONS

06287 THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS. PLANTS SOVIET UNION WATER VAPOR GASES PRECIPITATION (METEOROLOGICAL) LAKES RIVERS GROUND WATER CONCENTRATION

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS CANADA PERCH LAKE RADIOACTIVE WASTES WASTES RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES GROUND WATER TRITIATED WATER

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT LAKE TAHOE NEVADA TEST SITE CS-137 SR-90 CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES RAINFALL SURFACE WATERS

06397 TRITIUM IN NATURE. COSMIC RADIATION PRECIPITATION (METEOROLOGICAL) WATER LAKES OCEANS RIVERS SURFACE WATERS PRODUCTION RATE WINES SEA WATER

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE. PERCH LAKE CANADA LAKES TRITIATED WATER RADIOACTIVE WASTE DISPOSAL CONCENTRATION MIXING DISPERSION

06475 TRITIUM IN NEW YORK STATE WATERS, 1965. NEW YORK RIVERS LAKES SAMPLING CONCENTRATION GROUND WATER

06785 LABELING LAKE WATER WITH TRITIUM. LAKE MCILLAN LAKES LABELING TRITIATED WATER TRACERS HYDROLOGY

06986 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

06997 ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA). RADIOACTIVE TRACERS LAKE GENEVA LAKES TRACERS MIXING

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. FALLOUT CRATER LAKE LAKES SR-90 CS-137 TEMPERATURE PROFILES CONCENTRATION SOILS SEDIMENTS

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. AIR ATMOSPHERIC TRITIUM WATER VAPOR TRANSFER LAKES LAKE TAHOE TRANSFER RATES EQUATIONS

07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) LAKES DISTRIBUTION FRANCE STRATIFICATION PRECIPITATION (METEOROLOGICAL) TEMPERATURE HYDROLOGY

07022 RESULTATS DE MESURES D'ACTIVITE EN TRITIUM DE CERTAINES EAUX DU SUD-OUEST. (RESULTS OF TRITIUM ACTIVITY MEASUREMENTS OF SOME WATER OF SOUTHWEST.) RAINWATER LAKES VEGETABLES DISTRIBUTION FRANCE

07032 PREMIERS RESULTATS SUR LA TENUE EN TRITIUM DES EAUX DU LAC LEMAN. (PRIMARY RESULTS OF THE TRITIUM CONTENT OF THE WATER OF LAKE LEMAN.) CONCENTRATION LAKE GENEVA LAKES SEASONAL VARIATIONS PERIODIC VARIATIONS

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1988. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES. CONTAMINATION NUCLEAR REACTORS REACTORS NUCLEAR POWER NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONCENTRATION LAKES

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA SURFACE WATERS PRECIPITATION (METEOROLOGICAL) HYDROLOGICAL CYCLING CONCENTRATION SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS ALASKA GREENLAND

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) TRACERS LAKES MIXING ESTUARIES RADIOACTIVE TRACERS LAKE GENEVA FRANCE RESIDENCE TIME

LATINA REACTOR

06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS. GAS-GRAPHITE REACTORS HEAVY WATER REACTORS LATINA REACTOR NUCLEAR REACTORS ACTIVATION HAZARDS TRITIATED WATER RADIOLOGICAL HAZARDS

LATITUDE

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

LA-140

07098 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CB-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BB-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

LEACHING

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER. LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE DISTRIBUTION RAINFALL DEPTH EJECTA PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION FLOWSHARE PROGRAM NEVADA TEST SITE

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION SR-90 RU-106 CONTAMINATION GROUND WATER TC-99 RADIOACTIVE DECAY CS-137 LEACHING

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS. RADIOACTIVE WASTE DISPOSAL GLASS LEACHING SR-90 CS-137 SOILS SAND GROUND WATER

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL TRITIATED WATER SOILS RAINFALL LEACHING SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DISTRIBUTION

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. TRITIATED WATER FLOWSHARE PROGRAM CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS OIL LEACHING CONCENTRATION OIL SHALE

LEAVES

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES SUGARS TRITIATED WATER

06830 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). TRITIATED WATER PHOTOSYNTHESIS LEAVES TRANSPIRATION TRANSFORMATIONS MASS DISCRIMINATION LIQUID SCINTILLATION COUNTING

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

LEGUMES

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS. C-14 SOYBEANS CROPS LEGUMES PLANTS GROWTH RADIATION EFFECTS

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION METABOLISM KIDNEY BEANS BEANS PH CROPS LEGUMES PLANTS VEGETABLES RETENTION LIGHT TRITIUM OXIDE TRITIUM GAS

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES SUGARS TRITIATED WATER

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14. P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

LETHAL DOSE

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

LETHALITY

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. TRITIATED COMPOUNDS RADIATION EFFECTS GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA MICROORGANISMS BACTERIOPHAGES LETHALITY MUTATIONS ESCHERICHIA RADIATION DOSE

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

07126 EFFET LÉTAL DE LA DESINTÉGRATION D'ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORÉS DANS UNE BACTÉRIE. (LÉTAL EFFECT ON BACTERIUM OF DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32). C-14 P-32 RADIOACTIVE DECAY RADIATION EFFECTS BACTERIA MICROORGANISMS GENETIC EFFECTS LETHALITY

LEUCOCYTES

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

LEUKEMIA

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

LIGHT

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION METABOLISM KIDNEY BEANS BEANS PH CROPS LEGUMES PLANTS VEGETABLES RETENTION LIGHT TRITIUM OXIDE TRITIUM GAS

LIPID SECRETION

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS FATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

LIPIDS

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06954 BEISPIELE FUER DEN INTRAZELLULAREN TRITIUM-STOFFWECHSEL (EXAMPLES FOR THE INTRACELLULAR TRITIUM METABOLISM). INTRANUCLEAR LABELING CELLS AMINO ACIDS LIPIDS NUCLEIC ACIDS METABOLISM

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

LIQUID HYDROCARBONS

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY PROGRESS REPORT ON THE THEORETICAL EVALUATION OF CONSUMER PRODUCTS FROM PROJECT GASBUGGY. LIQUID HYDROCARBONS NATURAL GAS WATER GASES FLOWSHARE PROGRAM KR-85 PROJECT GASBUGGY

LIQUID OXYGEN

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE

PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

LIQUID SCINTILLATION COUNTING

06607 A CARBON DIOXIDE COLLECTION ACCESSORY FOR THE RAPID COMBUSTION APPARATUS FOR PREPARATION OF BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION ANALYSIS INSTRUMENTS CARBON DIOXIDE LIQUID SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS TRITIATED WATER

06818 A METHOD FOR EVALUATING SURFACE CONTAMINATION OF SOFT BETA EMITTERS. LIQUID SCINTILLATION COUNTING SURFACE CONTAMINATION CONTAMINATION BETA RADIATION

06830 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). TRITIATED WATER PHOTOSYNTHESIS LEAVES TRANSPIRATION TRANSFORMATIONS MASS DISCRIMINATION LIQUID SCINTILLATION COUNTING

06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). RADIATION PROPORTIONAL COUNTER COUNTERS MEASUREMENT SURFACE CONTAMINATION CONTAMINATION LIQUID SCINTILLATION COUNTING BETA RADIATION

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE NATURAL WATER OF SOUTHERN OAHU, HAWAII. CONCENTRATION RAINWATER GROUND WATER HAWAII TRITIATED WATER ELECTROLYTIC ENRICHMENT LIQUID SCINTILLATION COUNTING

07132 ANALYSIS AND PUBLIC HEALTH ASPECTS OF ENVIRONMENTAL TRITIUM. RADIOASSAY LIQUID SCINTILLATION COUNTING RADIATION DOSE

07141 A NEW PROCEDURE OF LIQUID-SCINTILLATION COUNTING IN PLASTIC BAGS FOR H-3, C-14 AND P-32 IN BIOLOGICAL MATERIALS. LIQUID SCINTILLATION COUNTING C-14 P-32 RADIOASSAY BIOLOGICAL MATERIALS

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. TRITIATED WATER VAPOR RADIOACTIVE TRACERS TRACERS NUCLEAR FUEL PLANTS STACK DISPERSION RADIOACTIVE WASTES EFFLUENT AIR LIQUID SCINTILLATION COUNTING

LIQUID SCINTILLATORS

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE). ATMOSPHERE (TERRESTRIAL) LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS PERIODIC VARIATIONS

LITHOSPHERE

06787 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTES ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL

06797 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. NATIONAL REACTOR TESTING STATION LITHOSPHERE ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06798 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06799 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

LITTER

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST. TRITIATED WATER MOVEMENT SOILS RAINFORESTS LITTER ROOTS RESIDENCE TIME PUERTO RICO TROPICS

LITTER SIZE

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

LIVER

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06386 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE PLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06658 STRAHLENBEDINGTE STÖRUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). METABOLISM TRITIATED WATER MICE LIVER ORGANIC CELL SUBSTANCES BRAIN TISSUES IRRADIATION

06661 INTERNE KONTAMINATION MIT TRITIUM (INTERNAL CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE RADIATION EFFECTS RADIATION EXPOSURE

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS PATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED FOLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED FOLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS

MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

LIVER CELLS

06803 INCORPORATION OF (H-3) THYMIDINE INTO NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED MAMMALIAN CELLS. LIVER CELLS DNA NUCLEAR DNA MITOCHONDRIAL DNA TRITIATED THYMIDINE UPTAKE

LIVESTOCK

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PLOS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTÉES AVEC DE L'EAU CONTAMINÉE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

07097 RAPPORT D'ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BB-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

LUQUILLO MOUNTAINS

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

MAMMALIAN CELLS

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE TRITIATED WATER MAMMALIAN CELLS CELLS CULTURE MEDIUM DOSE RATES RADIATION RADIATION EFFECTS GROWTH RATE

MAMMALIAN DEVELOPMENT

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS PETUS EMBRYO

MAMMALS

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPODOMYS DESERTI WITH TRITIATED WATER. BODY WATER BODY FLUIDS KANGAROO RATS RODENTS MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION XEROPHIL METABOLISM

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER I GROSS STUDIES ON METABOLISM MICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. OXIDATION MAMMALS BACTERIA PLANTS MICROORGANISMS RATS RODENTS PHYSIOLOGY

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. FRACTIONATION DEUTERIUM BIOLOGICAL SYSTEMS RATS MAMMALS RODENTS T/D RATIO BODY WATER

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINE DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

LI-7

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR. LI-7 NUCLEAR REACTORS COOLANT ADDITIVES B-10 SAN ONOPRE REACTOR SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR COMPUTER PROGRAMS

LOAM

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE. TRITIATED WATER TRITIATED WATER VAPOR SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION ATMOSPHERE (TERRESTRIAL) SOILS LOAM

LONG SHOT

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. LONG SHOT CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS ALASKA AMCHITKA ISLAND ALUTIAN ISLANDS WATER SPECTROCHEMICAL ANALYSIS

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS LONG SHOT CONTAMINATION SURFACE WATERS GROUND WATER MOVEMENT

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REPRARATION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

LUMINESCERS

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS. LUMINESCERS RADIOACTIVE LUMINOUS PAINTS TRITIATED WATER RADIATION PR-147 RA-226 MONITORING MAN

LUMINOUS DIAL PAINT

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. TRITIATED POLYMERS LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION CONTAMINATION CONCENTRATION GRAM-LAMBERT MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

LUNGS

04893 RADIOISOTOPE ABSORPTION AND METHODS OF ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF ENTRY. ABSORPTION ELIMINATION MAN SKIN INGESTION LUNGS GASTROINTESTINAL TRACT CONTAMINATION

06861 INTERNE KONTAMINATION MIT TRITIUM (INTERNAL CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE RADIATION EFFECTS RADIATION EXPOSURE

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS WATER EXCHANGE BARRIERS WATER BALANCE LUNGS SKIN BODY WATER GASTROINTESTINAL TRACT PHYSICAL PROPERTIES

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS PETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS TISSUES DEUTERIUM T/D RATIO

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN PLOWSHARE EVENTS. PLOWSHARE PROGRAM SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. TISSUES GASES RATS MAMMALS RODENTS WHOLE BODY EXPOSURE RADIATION EXPOSURE TRITIUM GAS TRITIUM OXIDE DISTRIBUTION RETENTION

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS TRITIUM OXIDE RETENTION

06380 EFFECT OF RADIATION ON THE INCORPORATION OF TRITIUM BY THE RAT. OXIDES RATS MAMMALS RODENTS TISSUES TRITIUM OXIDE ABSORPTION

06386 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE PLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. RATS MAMMALS RODENTS ABSORPTION TRITIUM GAS TRITIUM OXIDE DISTRIBUTION METABOLISM

06398 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER. IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER. III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER. II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06468 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

06603 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. THYMIDINE NUCLEIC ACIDS ORGANIC COMPOUNDS CELLS MAMMALS RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE DNA RADIATION EFFECTS MORTALITY

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS UPTAKE CONCENTRATION INVERTEBRATES BIOLOGICAL HALF-LIFE

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIVANIE VREMENI GODA I TEMPERATURY NA VSASYVANIE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS PETUS EMBRYO

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE. TRITIUM OXIDE IMMUNOLOGICAL REACTIVITY DOGS MAMMALS RADIATION EFFECTS RADIATION DOSE BIOLOGICAL EFFECTS AUTO-ALLERGIC PROCESSES

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE
RODENTS RABBITS RATS MICE MORTALITY
BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS
07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE
IN THE CASE OF INTRAPERITONEAL INJECTION.
TRITIUM OXIDE RODENTS RATS MICE RABBITS
BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE
RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY
TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE.
TRITIUM OXIDE RATS MICE MAMMALS RODENTS
BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY
LETHAL DOSE LIVER TOXICITY

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM
IN RATS AFTER TRITIUM OXIDE INGESTION.
RADIATION DOSE TRITIUM OXIDE RATS RODENTS
MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS
MODELS TISSUES BODY WATER BONE MARROW BRAIN
LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE
ELIMINATION OF TRITIUM OXIDE IN DOGS.
TRITIUM OXIDE RADIATION EFFECTS TOXICITY
BIOLOGICAL EFFECTS DOGS METABOLISM
BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE
EXCRETION

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO
FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE
OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND
POSTNATAL LIFE. TRITIUM OXIDE TRANSFER FETUS
RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS
RADIATION DOSE

07068 STATE OF AUTOINFECTION RESISTANCE IN MICE
TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE MICE
MAMMALS RODENTS RADIATION SICKNESS
RADIATION EFFECTS MICROORGANISMS

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951.
TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE
HALF-LIFE BACTERIA FIXATION MICROORGANISMS
RETENTION MAN RATS RODENTS MAMMALS PLANTS
SPLEEN OXIDATION PU-238 DOGS
GASTROINTESTINAL TRACT

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE
SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE
TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS
MAMMALS RADIATION EFFECTS GENETIC EFFECTS
LETHALITY RADIOACTIVE DECAY RADIATION DOSE
DNA SYNTHESIS

07152 DELETERIOUS INFLUENCE OF ORALLY
ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE
CAPACITY OF MICE. TRITIATED THYMIDINE
TRITIATED COMPOUNDS MICE RODENTS MAMMALS
REPRODUCTION LITTER SIZE STERILITY
BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS
RADIATION DOSE

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF
CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED
WATER. TRITIATED WATER IRRADIATION RATS
RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS
RECOVERY STERILITY LITTER SIZE
RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION
RADIATION DOSE BRAIN GONADS HEART KIDNEY
THYMUS LIVER LUNGS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN
NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS
MAMMALS TRITIATED THYMIDINE LABELING
CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES
GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES
ERYTHROCYTES LEUCOCYTES ORGANS
RADIATION EFFECTS TRITIATED COMPOUNDS

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS
SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED
WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER
TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS
RODENTS MAMMALS FATTY ACIDS RETENTION
DISTRIBUTION

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS
AND THEIR BIOLOGICAL SIGNIFICANCE. CONTAMINATION
RADIOACTIVITY FALLOUT DOSE RATES SAFETY MAN
RADIATION EXPOSURE FRESH WATER

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF
INTERNAL EMITTERS. BODY MAN PLUTONIUM SR-90
CS-137 ZN-65 QA-72 P-32

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN

ORGANS HALF-LIFE FOOD-CHAINS
BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL
DOSE ESTIMATION MODELS CONTAMINATION
ENVIRONMENTS TRANSFER COMPARTMENTS
SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND
INGESTION COMPUTER PROGRAM

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY.
BALTIC SEA FOOD-CHAINS ACCUMULATION
RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA
FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137
PU-239

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF
TRITIUM. BIOLOGICAL HALF-LIFE
RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN
AGE TEMPERATURE WATER HALF-LIFE ANALYSIS
SAVANNAH RIVER PLANT

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR
CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD
VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS
RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS
MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

04147 RADIOACTIVITY AND HUMAN DIET.
RADIOACTIVITY MAN RADIATION EXPOSURE
CONTAMINATION MILK FOOD-CHAINS FALLOUT
VEGETATION ABSORPTION SOILS ANIMALS METABOLISM
PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH
FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM
ENVIRONMENTS FOODS CALCIUM

04893 RADIOISOTOPE ABSORPTION AND METHODS OF
ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF
ENTRY. ABSORPTION ELIMINATION MAN SKIN
INGESTION LUNGS GASTROINTESTINAL TRACT
CONTAMINATION

05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT
THE SAVANNAH RIVER PLANT. HALF-LIFE
EFFECTIVE HALF-LIFE ASSIMILATION MAN
BIOLOGICAL HALF-LIFE TEMPERATURE WEIGHT AGE

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE
NATIONAL LABORATORY. CO-60 ACCIDENTS
ELIMINATION HALF-LIFE MAN BIOLOGICAL HALF-LIFE
RADIATION EXPOSURE RADIATION DOSE

06192 ESTIMATION OF MAXIMUM PERMISSIBLE
CONCENTRATIONS OF RADIOISOTOPES IN WATER (MPC)W
FROM INTERSPECIES CORRELATIONS I COMPARISON OF
ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND
TRITIUM. ZN-65
MAXIMUM PERMISSIBLE CONCENTRATION WATER MAN
RETENTION

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL
TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG
AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF
TRITIUM IN MAN. RATS RODENTS MAMMALS CATS
RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE
HALF-LIFE ELIMINATION URINE BODY WATER
BODY FLUIDS

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY
PEOPLE. ABSORPTION INHALATION SKIN
CONTAMINATION BODY WATER URINE BODY FLUIDS
ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE
TRITIATED WATER WATER VAPOR

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES
APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR
TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN
CLINICAL PRACTICE). BODY WATER BODY FLUIDS
BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD
ELIMINATION TRITIATED WATER RADIATION DOSE
DOSE RATES MAN

06226 MONITORING FOR TRITIUM AT LOW LEVELS.
ABSORPTION BETA RADIATION RADIATION URINE
INSTRUMENTS BODY BURDEN MAN MONITORING
TRITIATED WATER

06240 COMPARATIVE METABOLISM OF TRITIATED WATER
BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE
MICE RATS RABBITS RODENTS DOGS MAN HORSES
DOMESTIC ANIMALS LIVESTOCK RETENTION
BODY FLUIDS BODY WATER METABOLISM MAMMALS
TRITIATED WATER KANGAROO RATS

06263 BIOLOGICAL HALF-LIFE OF TRITIUM.
BIOLOGICAL HALF-LIFE HALF-LIFE MAN BODY WATER

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING
WORLD NUCLEAR POWER ECONOMY. KR-85
DOSE ESTIMATION WASHOUT RAINOUT FALLOUT
RADIATION EXPOSURE MODELS INHALATION INGESTION
PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN
REACTOR FUELS REPROCESSING EQUATIONS

MAN

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

06328 THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN. GASTROINTESTINAL TRACT MAN URINE INGESTION ABSORPTION BLOOD TRANSFER TRITIATED WATER

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS EQUIPMENT ABSORPTION SKIN PRECIPITATION (METEOROLOGICAL) MAN

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06492 THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS. MAXIMUM PERMISSIBLE CONCENTRATION CHEMICAL COMPOUNDS HAZARDS URINE MAN INHALATION TRITIATED WATER VAPOR TRITIATED WATER TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS BODY BURDEN

06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS URINE ANALYSIS SAVANNAH RIVER PLANT

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION

TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06631 ASSESSMENT OF TRITIUM IN MAN. SAVANNAH RIVER PLANT ABSORPTION CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS MODELS URINE ANALYSIS BODY WATER MAN

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS. LUMINESCERS RADIOACTIVE LUMINOUS PAINTS TRITIATED WATER RADIATION PR-147 RA-226 MONITORING MAN

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. TRITIUM OXIDE METABOLISM MICE RATS MAN EXCRETION SPECIFIC ACTIVITIES BIOLOGICAL HALF-LIFE

06784 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. TRITIUM OXIDE PERCUTANEOUS ABSORPTION MICE RATS PULMONARY ABSORPTION ABSORPTION MAN

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS UPTAKE CONCENTRATION INVERTEBRATES BIOLOGICAL HALF-LIFE

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN RESPIRATORY TRACT BODY FLUIDS TRITIATED WATER VAPOR

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

06889 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1962. BIOLOGICAL HALF-LIFE TRITIATED WATER MAN BODY WEIGHT AGE TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE BIOASSAY

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE FECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06955 MESURE DE LA CONTAMINATION DU CORPS HUMAIN (MEASUREMENT OF THE CONTAMINATION OF THE HUMAN BODY). THYMIDINE TRITIATED HYDROGEN TRITIATED WATER URINE MAN CONTAMINATION

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

06995 DETERMINATION OF TOTAL BODY WATER IN HEALTHY FILIPINO SUBJECTS WITH THE USE OF TRITIATED WATER. BODY WATER TRITIATED WATER MAN PHILIPPINES

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN DIETS WATER ORGANS MONITORING NETWORKS AIRBORNE PARTICULATES

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-46 MN-56 W-181 W-185 W-187 PB-203 HQ-203 MAN FOOD-CHAINS DOSE ESTIMATION

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION TISSUES BODY WATER MAN RADIATION EXPOSURE

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07144 REPAIRING A LARGE TRITIUM-CONTAMINATED SYSTEM. DRY BOX SYSTEM REPAIR GAS PURIFICATION SYSTEM CONTAMINATION RADIATION EXPOSURE MAN

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS

IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

07165 SALIVA-SERUM RATIOS OF TRITIUM AFTER THE ADMINISTRATION OF TRITIATED WATER. TRITIATED WATER CONCENTRATION SALIVA SERUM MAN

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 BU-152 BU-154 BU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

07184 RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER REACTORS AND THE POPULATION. RADIATION EXPOSURE NUCLEAR POWER INDUSTRY NUCLEAR REACTORS NUCLEAR FUEL PLANTS DOSE ESTIMATION RADIOACTIVE WASTES MAN

MARINE BIOLOGY

04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE SEDIMENTS AND MARINE ORGANISMS. SEA WATER SEDIMENTS MARINE BIOLOGY HALF-LIFE DISTRIBUTION CONCENTRATION RADIOACTIVITY ENVIRONMENTS

MARINE ENVIRONMENT

06796 RATE OF RADIOACTIVE CONTAMINANTS IN WATER, PROGRESS REPORT NO 2, FOR THE PERIOD MAY 1, 1958 TO JUNE 30, 1959. CHEMICAL EFFECTS BIOLOGICAL EFFECTS ESTUARINE ENVIRONMENTS MARINE ENVIRONMENT SEA WATER

MARSHALL ISLANDS

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

MASS DISCRIMINATION

06830 RECHERCHES SUR LES TRANSFORMATIONS DE L'EAU DANS LES FEUILLES AVEC L'EAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). TRITIATED WATER PHOTOSYNTHESIS LEAVES TRANSPIRATION TRANSFORMATIONS MASS DISCRIMINATION LIQUID SCINTILLATION COUNTING

MASS EXTRACTION RATE

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

MATHEMATICAL ANALYSIS

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06353 DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE SOLAR ORIGIN OF NATURAL TRITIUM. DISTRIBUTION MATHEMATICAL ANALYSIS ANALYSIS PRODUCTION RATE NORTH AMERICA ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION

06384 APPROACHES TO THE CALCULATION OF LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL PURPOSES. NUCLEAR EXPLOSIONS EXPLOSIONS KR-85 C-14 MATHEMATICAL ANALYSIS ANALYSIS MAXIMUM PERMISSIBLE CONCENTRATION

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DNA DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

07175 COMPARISON OF HYDROLOGICAL AND MATHEMATICAL METHODS IN ANALYSIS OF TRITIUM DATA. MODELS HYDROLOGIC MODELS HYDROLOGY MATHEMATICAL ANALYSIS SPRINGS GROUND WATER

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

MATHEMATICAL MODELS

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF FLOWSHARE EVENTS FLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION 1-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE FLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06267 AQUIFER STORAGE DETERMINATION BY RADIOTRACER TECHNIQUES. TRACERS WATER STORAGE AQUIFERS MODELS MATHEMATICAL MODELS GROUND WATER CONCENTRATION

06367 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. RIVERS WATER TRANSPORT MATHEMATICAL MODELS MODELS HALF-LIFE HYDROLOGY

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06631 ASSESSMENT OF TRITIUM IN MAN. SAVANNAH RIVER PLANT ABSORPTION CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS MODELS URINE ANALYSIS BODY WATER MAN

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL TRITIATED WATER SOILS RAINFALL LEACHING SOIL MOISTURE PRECIPITATION (METEOROLOGICAL)

MATHEMATICAL MODELS DISTRIBUTION

06665 ON THE DIFFERENCE BETWEEN THE LETHAL EFFECTS OF H-3 AND P-32 IN BACTERIA. MORTALITY P-32 BACTERIA MICROORGANISMS DNA CELLS RADIATION EFFECTS MATHEMATICAL MODELS

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

06987 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. (TRITIUM STUDY OF THE DYNAMICS OF UNDERGROUND WATER.) MATHEMATICAL MODELS MODELS TRACERS UNDERGROUND WATER CIRCULATION HYDROLOGY

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07048 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLOCATION MATHEMATICAL MODELS MODELS TRACERS

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

MATHEMATICS

05105 TRITIUM ET EAU TRITIEE- DUREES LIMITEES DEPOSEMENT ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE (TRITIUM AND TRITIATED WATER- TIME LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR REGENERATED ATMOSPHERES). CONTAMINATION ACCIDENTS ABSORPTION EQUATIONS MATHEMATICS TISSUES DIFFUSION TRITIATED WATER

MAXIMUM CREDIBLE ACCIDENT

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS. AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT THYROID GLAND BONE WHOLE BODY EXPOSURE NUCLEAR REACTORS

MAXIMUM PERMISSIBLE CONCENTRATION

05104 TRITIUM HEALTH PHYSICS CONSIDERATIONS. RADIOACTIVITY MAXIMUM PERMISSIBLE CONCENTRATION TOXICITY GASES MONITORING TRITIATED WATER TRITIATED GAS

06192 ESTIMATION OF MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOISOTOPES IN WATER (NPC)W FROM INTERSPECIES CORRELATIONS 1 COMPARISON OF ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND TRITIUM. ZN-65
MAXIMUM PERMISSIBLE CONCENTRATION WATER MAN RETENTION

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE RADIATION EXPOSURE FOODS KR-85 RADIOACTIVE TRACERS TRACERS ENGINEERING CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06384 APPROACHES TO THE CALCULATION OF LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL PURPOSES. NUCLEAR EXPLOSIONS EXPLOSIONS KR-85 C-14 MATHEMATICAL ANALYSIS ANALYSIS MAXIMUM PERMISSIBLE CONCENTRATION

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06460 NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS. C-14 KR-85 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES PLANTS RAINWATER CONCENTRATION

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06469 HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM OXIDE. MAXIMUM PERMISSIBLE CONCENTRATION RADIATION EXPOSURE OXIDES BIOLOGICAL EFFECTIVENESS TRITIUM OXIDE RADIOLOGICAL HAZARDS

06492 THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS. MAXIMUM PERMISSIBLE CONCENTRATION CHEMICAL COMPOUNDS HAZARDS URINE MAN INHALATION TRITIATED WATER VAPOR TRITIATED WATER TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS BODY BURDEN

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06599 TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER. OXIDES HAZARDS WHOLE BODY EXPOSURE ABSORPTION RADIATION EXPOSURE MAXIMUM PERMISSIBLE CONCENTRATION SAFETY TRITIUM OXIDE EXCRETION

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. TRITIATED POLYMERS LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION CONTAMINATION CONCENTRATION GRAM-LAMBERT MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06843 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR TRITIATED WATER AND TRITIATED THYMIDINE. MAXIMUM PERMISSIBLE CONCENTRATION DOSE ESTIMATION TRITIATED WATER TRITIATED THYMIDINE BETA RADIATION RADIATION CONCENTRATION ABSORBED DOSE

06862 EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE (K EKSPERIMENTAL NOMU OBOSNOVANIYU PREDEL NO DOPUSTIMOJ KONTSENTRATSII OKISI TRITIYA). MAXIMUM PERMISSIBLE CONCENTRATION TISSUES BODY BURDEN RATS TRITIUM OXIDE RELATIVE BIOLOGICAL EFFECTIVENESS

06874 THE MAXIMUM PERMISSIBLE CONCENTRATION OF GASEOUS TRITIUM IN THE AIR OF WORKING PREMISES. TRITIUM OXIDE TRITIATED WATER MAXIMUM PERMISSIBLE CONCENTRATION CUTANEOUS PENETRATION

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM. FE-55 NI-59 RADIATION MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER RADIOLOGICAL HAZARDS CONTAMINATION NUCLEAR REACTORS

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

06941 RISQUES PRESENTES PAR LA DIFFUSION DE GRANDES QUANTITES DE TRITIUM DANS L'ATMOSPHERE (DANGERS PRESENTED BY THE DIFFUSION OF LARGE QUANTITIES OF TRITIUM IN THE ATMOSPHERE). HYDROGEN DIFFUSION DIFFUSION ISOTOPIC DIFFUSION ISOTOPE EXCHANGE WATER VAPOR MAXIMUM PERMISSIBLE CONCENTRATION

06952 CONCENTRATIONS MAXIMALES ADMISSIBLES POUR LE TRITIUM ET SES COMPOSES (MAXIMUM PERMISSIBLE CONCENTRATION FOR TRITIUM AND ITS COMPOUNDS). TRITIATED WATER TRITIATED HYDROGEN TRITIATED THYMIDINE DNA METABOLISM MAXIMUM PERMISSIBLE CONCENTRATION

07089 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY- JUNE, 1968. GROUND WATER CONTAMINATION CONCENTRATION MAXIMUM PERMISSIBLE CONCENTRATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL AQUIPERS HANFORD PROJECT RU-106

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION TISSUES BODY WATER MAN RADIATION EXPOSURE

MAYFLY NYMPHS

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES BODY WATER SNAILS GASTROPODS AQUATIC LIFE MOLLUSKS ABSORPTION FISH RETENTION TRITIUM OXIDE SALMON PRY MAYFLY NYMPHS

MEASUREMENT

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER. MEASUREMENT C-14 RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY RADIOACTIVE AGE DETERMINATION AGE GROUND WATER AQUIPERS

06439 MEASUREMENT OF TRITIUM SURFACE CONTAMINATION. OXIDES SCINTILLATION COUNTING CONTAMINATION MEASUREMENT

06463 TRITIUM IN SURFACE WATERS OF THE UNITED STATES, 1966. SURFACE WATERS ANALYSIS BODY BURDEN MEDICINE MEASUREMENT SAMPLING

06845 DETECTION ET MESURE DE LA CONTAMINATION PAR LE TRITIUM DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF GASES AND VAPORS BY TRITIUM). AR-41 TRITIATED WATER TRITIUM DETECTION MEASUREMENT

06947 MESSEGERAST FUER TRITIUM (MEASUREMENT DEVICE FOR TRITIUM). PROPORTIONAL COUNTER COUNTERS RADIATION MEASUREMENT DOSIMETRY CONTAMINATION

06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). RADIATION PROPORTIONAL COUNTER COUNTERS MEASUREMENT SURFACE CONTAMINATION CONTAMINATION LIQUID SCINTILLATION COUNTING BETA RADIATION

06960 TRITIUM DETECTION AND MEASUREMENT; A BIBLIOGRAPHY. MEASUREMENT DETECTION BIBLIOGRAPHY

07082 MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION. LABORATORY METHODS RAINWATER TRACERS METEOROLOGY WATER CIRCULATION ELECTROLYTIC ENRICHMENT MEASUREMENT

MEATS

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

MEDICINE

06423 ACTIVITIES OF ASCL IN THE FIELDS OF BIOLOGY, HEALTH PHYSICS AND MEDICINE. MEDICINE BIOLOGY DOSIMETRY ENVIRONMENTAL RADIATION RADIATION SAFETY

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06463 TRITIUM IN SURFACE WATERS OF THE UNITED STATES, 1966. SURFACE WATERS ANALYSIS BODY BURDEN MEDICINE MEASUREMENT SAMPLING

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

MEDITERRANEAN

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

MELONS

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

MESAVERDE FORMATION

06821 RADIOACTIVITY IN WATER - PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM MESAVERDE FORMATION RADIOACTIVITY CONCENTRATION GUIDES GROUND WATER TRANSPORT

METABOLISM

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY GROWING CHLORELLA PYRENOIDOSA CELLS. METABOLISM CHLORELLA ALGAE CHLOROPHYTA PLANTS DEUTERIUM TRACERS

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPDOMYS DESERTI WITH TRITIATED WATER. BODY WATER BODY FLUIDS KANGAROO RATS RODENTS MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION XEROPHIL METABOLISM

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER I GROSS STUDIES ON METABOLISM MICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION METABOLISM KIDNEY BEANS BEANS PH CROPS LEGUMES PLANTS VEGETABLES RETENTION LIGHT TRITIUM OXIDE TRITIUM GAS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS TISSUES DEUTERIUM T/D RATIO

06343 METABOLISM OF HYDROGEN ISOTOPES BY ALGAE. METABOLISM ALGAE PLANTS DEUTERIUM

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY RADIATION EFFECTS

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE. CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM METABOLISM

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. RATS MAMMALS RODENTS ABSORPTION TRITIUM GAS TRITIUM OXIDE DISTRIBUTION METABOLISM

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06433 BIOLOGICAL APPLICATIONS OF TRITIUM. RADIOACTIVE TRACERS TRACERS BETA RADIATION RADIATION BIOLOGICAL SYSTEMS DEUTERIUM METABOLISM BIOLOGICAL HALF-LIFE

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. INTAKE RATE TRITIATED THYMIDINE RADIOTOXICITY TOXICITY MICE RETENTION UPTAKE METABOLISM

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. TRITIUM OXIDE METABOLISM MICE RATS MAN EXCRETION SPECIFIC ACTIVITIES BIOLOGICAL HALF-LIFE

06801 STUDIES ON THE INCORPORATION OF TRITIATED THYMIDINE IN DESOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS. TRITIATED THYMIDINE MICE DNA LABELING SPECIFIC ACTIVITIES RADIATION EFFECTS METABOLISM

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06838 A METHOD OF STUDYING METABOLIC REACTIONS DURING BETA-IRRADIATION. CELLS CHLORELLA METABOLISM BETA RADIATION TRITIATED WATER

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON

RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

06858 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). METABOLISM TRITIATED WATER MICE LIVER ORGANIC CELL SUBSTANCES BRAIN TISSUES IRRADIATION

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

06886 RADIAL EXCHANGE OF LABELED WATER IN INTACT MAIZE ROOTS. TRITIATED WATER ROOTS CORTEX ENDODERMIS METABOLISM DIFFUSION COEFFICIENT DIFFUSION UPTAKE

06923 THE METABOLISM AND PATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE FECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06952 CONCENTRATIONS MAXIMALES ADMISSIBLES POUR LE TRITIUM ET SES COMPOSES (MAXIMUM PERMISSIBLE CONCENTRATION FOR TRITIUM AND ITS COMPOUNDS). TRITIATED WATER TRITIATED HYDROGEN TRITIATED THYMIDINE DNA METABOLISM MAXIMUM PERMISSIBLE CONCENTRATION

06954 BEISPIELE FUER DEN INTRAZELLULAREN TRITIUM-STOPFWECHSEL (EXAMPLES FOR THE INTRACELLULAR TRITIUM METABOLISM). INTRANUCLEAR LABELING CELLS AMINO ACIDS LIPIDS NUCLEIC ACIDS METABOLISM

06958 TRITIUM (A BIBLIOGRAPHY). URINE ANALYSIS METABOLISM BIBLIOGRAPHY

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. TRITIATED DIMETHOATE TOXICITY METABOLISM INSECTS ABSORPTION TRITIATED COMPOUNDS

07010 A COMPARISON OF H-3- AND C-14-GLUCOSE METABOLISM IN THE INTACT RAT. TRITIATED GLUCOSE TRITIATED COMPOUNDS METABOLISM RATS RODENTS C-14

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. TRITIUM OXIDE RADIATION EFFECTS TOXICITY BIOLOGICAL EFFECTS DOGS METABOLISM BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE EXCRETION

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

METALLIC TRITIDES

06946 DETECTION ET MEASURE DE LA CONTAMINATION DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF THE CONTAMINATION OF GASES AND VAPORS). TRITIATED WATER OXIDATION FISSION PRODUCTS METALLIC TRITIDES TRITIATED HYDROGEN CONTAMINATION

METALS

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. TRITIATED WATER FLOWSHARE PROGRAM CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS OIL LEACHING CONCENTRATION OIL SHALE

METEORITES

07164 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 2, FOR THE PERIOD 1 NOVEMBER 1961--31 OCTOBER 1962. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE PRECIPITATION (METEOROLOGICAL) WATER CONCENTRATION METEORITES GERMANY

METEOROLOGY

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. 11. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06190 TRITIUM GEOPHYSICS AS AN INTERNATIONAL RESEARCH PROJECT. GEOPHYSICS HYDROLOGY COSMIC RADIATION METEOROLOGY OCEANOGRAPHY TRACERS

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06253 THE NATURAL DISTRIBUTION OF TRITIUM. COSMIC RADIATION SURFACE WATERS RADIATION DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES WINES PRODUCTION RATE PRECIPITATION (METEOROLOGICAL) T/H RATIO

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY. FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING ENVIRONMENTAL RADIATION RADIATION PRECIPITATION (METEOROLOGICAL) GROUND WATER SAMPLING METEOROLOGY C-14 SI-32

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

07016 HURRICANE TRITIUM III; EVAPORATION OF SEA WATER IN HURRICANE FAITH 1966. TRITIATED WATER HURRICANES DESTRUCTIVE FACTORS EVAPORATION SEA WATER RADIAL DISTRIBUTION RAINFALL DISTRIBUTION EQUATIONS METEOROLOGY

07062 MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION. LABORATORY METHODS RAINWATER TRACERS METEOROLOGY WATER CIRCULATION ELECTROLYTIC ENRICHMENT MEASUREMENT

7 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM. COSMIC RADIATION METEOROLOGY WATER HYDROLOGY RADIOACTIVE AGE DETERMINATION WATER SUPPLY PLANTS TRACERS

METHANE

06204 TRITIUM CONTENT OF ATMOSPHERIC METHANE AND ETHANE. GASES METHANE ETHANE NUCLEAR REACTORS ATMOSPHERE (TERRESTRIAL) T/H RATIO

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE AND SOURCES OF TRITIATED METHANE. HYDROGEN GASES METHANE NUCLEAR POWER INDUSTRY T/H RATIO ATMOSPHERE (TERRESTRIAL) TRITIATED METHANE

06259 TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC METHANE. ATMOSPHERE (TERRESTRIAL) METHANE GASES GERMANY DEUTERIUM INDIANA

06354 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. HYDROGEN GASES METHANE ATMOSPHERE (TERRESTRIAL)

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). DETECTION RADIATION WATER VAPOR METHANE ORGANIC GASES PROPORTIONAL COUNTER MONITORING BETA RADIATION HYDROGEN

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. WATER VAPOR METHANE ATMOSPHERIC HYDROGEN CONCENTRATION STRATOSPHERE DEUTERIUM SPECIFIC ACTIVITIES

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY FLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS FLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

METHYLENE

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

MIAMI RIVER

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. MONITORING ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210 RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER MIAMI RIVER

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ENVIRONMENTAL RADIATION RADIATION MONITORING PLUTONIUM POLONIUM RIVERS GROUND WATER ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06790 ENVIRONMENTAL MONITORING REPORT- JULY-DECEMBER 1969 AND 1969 SUMMARY. CONTAMINATION MIAMI RIVER ENVIRONMENTAL MONITORING

06820 MOUND LABORATORY, JANUARY-JUNE 1968. PO-210 PU-238 MONITORING RADIOACTIVE WASTES MIAMI RIVER

06824 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1964 AND 1964 SUMMARY. PLUTONIUM POLONIUM AIR WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06825 ENVIRONMENTAL MONITORING; SEMIANNUAL REPORT, JANUARY-JUNE, 1964. AIR PLUTONIUM POLONIUM WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06826 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1965. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06827 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1965 AND 1965 SUMMARY. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06832 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1966. POLONIUM PLUTONIUM MIAMI RIVER AIR WATER ENVIRONMENTAL MONITORING CONCENTRATION

06883 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1967 AND 1967 SUMMARY. ENVIRONMENTS MIAMI RIVER RIVERS PU-238 PO-210 RADIOACTIVE WASTES

07075 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING MOUND LABORATORY TRITIUM OXIDE MONITORING

07149 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1969. PU-238 PO-210 ENVIRONMENTAL MONITORING MOUND LABORATORY MIAMI RIVER RIVERS CONCENTRATION

MICE

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER I GROSS STUDIES ON METABOLISM MICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. INTAKE RATE TRITIATED THYMIDINE RADIOTOXICITY TOXICITY MICE RETENTION UPTAKE METABOLISM

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE. C-14 DNA MICE TUMORS CARCINOGENIC EFFECTS RETENTION TRITIATED THYMIDINE RADIATION EFFECTS

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. TRITIUM OXIDE METABOLISM MICE RATS MAN EXCRETION SPECIFIC ACTIVITIES BIOLOGICAL HALF-LIFE

06784 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. TRITIUM OXIDE PERCUTANEOUS ABSORPTION MICE RATS PULMONARY ABSORPTION ABSORPTION MAN

06801 STUDIES ON THE INCORPORATION OF TRITIATED THYMIDINE IN DESOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS. TRITIATED THYMIDINE MICE DNA LABELING SPECIFIC ACTIVITIES RADIATION EFFECTS METABOLISM

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ORGANS MICE TRITIATED WATER IRRADIATION SKIN WHOLE BODY EXPOSURE RADIATION EFFECTS

06858 STRAHLENBEDINGTE STÖRUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). METABOLISM TRITIATED WATER MICE LIVER ORGANIC CELL SUBSTANCES BRAIN TISSUES IRRADIATION

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE. TRITIATED THYMIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS RADIATION EFFECTS BIOLOGICAL EFFECTS GENETIC EFFECTS MUTATIONS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

07068 STATE OF AUTOINFECTION RESISTANCE IN MICE TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE MICE MAMMALS RODENTS RADIATION SICKNESS RADIATION EFFECTS MICROORGANISMS

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

MICROBIOLOGY

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

MICROORGANISMS

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. OXIDATION MAMMALS BACTERIA PLANTS MICROORGANISMS RATS RODENTS PHYSIOLOGY

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL SUSPENSIONS. CHEMICAL REACTIONS ENZYMES BACTERIA PLANTS MICROORGANISMS BIOLOGICAL FIXATION HYDROGENATION

06863 VARIAZIONI DELLA CRESCITA FACILE DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E. COLI)). TRITIATED WATER BACTERIOPHAGES RADIATION BETA RADIATION MICROORGANISMS HOSTS BACTERIA GROWTH RADIATION EFFECTS

06865 ON THE DIFFERENCE BETWEEN THE LETHAL EFFECTS OF H-3 AND P-32 IN BACTERIA. MORTALITY P-32 BACTERIA MICROORGANISMS DNA CELLS RADIATION EFFECTS MATHEMATICAL MODELS

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07066 STATE OF AUTOINFECTION RESISTANCE IN MICE TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE MICE MAMMALS RODENTS RADIATION SICKNESS RADIATION EFFECTS MICROORGANISMS

07088 THE EFFECTS OF TRITIUM DECAY ON DNA. PROGRESS REPORT FOR THE PERIOD 1 JANUARY-31 DECEMBER 1967. RADIOACTIVE DECAY DNA ESCHERICHIA BACTERIA MICROORGANISMS RADIATION EFFECTS RADIOSENSITIVITY

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. TRITIATED COMPOUNDS RADIATION EFFECTS GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA MICROORGANISMS BACTERIOPHAGES LETHALITY MUTATIONS ESCHERICHIA RADIATION DOSE

07128 EFFET LÉTAL DE LA DESINTÉGRATION D'ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORÉS DANS UNE BACTÉRIE. (LETHAL EFFECT ON BACTERIUM OF DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32)). C-14 P-32 RADIOACTIVE DECAY RADIATION EFFECTS BACTERIA MICROORGANISMS GENETIC EFFECTS LETHALITY

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION

TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

MIGRATION

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION SR-90 RU-106 CONTAMINATION GROUND WATER TC-99 RADIOACTIVE DECAY CS-137 LEACHING

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CE-141 CE-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY FLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

MILK

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF FLOWSHARE EVENTS FLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE FLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PLECEPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06470 CARBON-14, TRITIUM, AND PLUTONIUM-239 IN MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968. C-14 PU-239 MILK DAIRY PRODUCTS FOODS DIETS CONCENTRATION

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1968. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1968. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTÉES AVEC DE L'EAU CONTAMINÉE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07097 RAPPORT D'ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I PLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

07159 RADIATION SURVEILLANCE NETWORKS. ENVIRONMENTAL MONITORING MILK DAIRY PRODUCTS FOODS RADIOACTIVITY PU-238 MONITORING NETWORKS

MILROW

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION PLOWSHARE PROGRAM ALUTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING ANCHITKA ISLAND WATER

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS ANCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

MINNESOTA

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

MITOCHONDRIAL DNA

06803 INCORPORATION OF (H-3) THYMIDINE INTO NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED MAMMALIAN CELLS. LIVER CELLS DNA NUCLEAR DNA MITOCHONDRIAL DNA TRITIATED THYMIDINE UPTAKE

MITOSIS

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

MIXED FISSION PRODUCTS

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES' INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

MIXED LAYER

06845 TRITIUM IN SURFACE WATERS OF THE NORTH PACIFIC. SURFACE WATERS OCEANS RADIATION RESIDENCE TIME MIXED LAYER NORTH PACIFIC OCEAN SPECIFIC ACTIVITIES

MIXING

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE MIXING RETENTION

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90 FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE SEASONAL VARIATIONS PERIODIC VARIATIONS STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. SEASONAL VARIATIONS PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL) GROUND WATER AUSTRIA KARST MIXING MODELS SURFACE WATERS CONCENTRATION

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES. ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS SURFACE WATERS CIRCULATION MIXING ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

06235 LARGE-SCALE UTILIZATION OF TRITIUM IN HYDROLOGIC STUDIES. TRACERS CIRCULATION MIXING GROUND WATER HYDROLOGICAL CYCLING SURFACE WATERS

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE. PERCH LAKE CANADA LAKES TRITIATED WATER RADIOACTIVE WASTE DISPOSAL CONCENTRATION MIXING DISPERSION

06788 TRITIUM TRACER IN ARCTIC PROBLEMS. TRACERS SEA WATER ICE OCEANS ARCTIC OCEAN MIXING EXCHANGE CONCENTRATION

06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90. SOVIET NUCLEAR TESTS TROPOSPHERIC EXCHANGE TROPOSPHERE SR-90 C-14 ATMOSPHERE (TERRESTRIAL) MIXING

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06900 A STUDY OF THE DIFFUSION AND MIXING OF TRITIUM GAS IN AIR. ATMOSPHERE (TERRESTRIAL) DIFFUSION MIXING TRITIUM GAS

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

06997 ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA). RADIOACTIVE TRACERS LAKE GENEVA LAKES TRACERS MIXING

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER

SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSCS INTERCALIBRATION STATION. NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS CONCENTRATION DEPTH MIXING

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS; SEVENTH PROGRESS REPORT. VERTICAL DISTRIBUTION DISTRIBUTION TROPOSPHERE CONCENTRATION WATER VAPOR EVAPOTRANSPIRATION MIXING ILLINOIS

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. GROUND WATER CHLORIDES CONCENTRATION CIRCULATION DILUTION NEW ZEALAND MIXING TRITIATED WATER BORES GEOTHERMAL WATERS

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) TRACERS LAKES MIXING ESTUARIES RADIOACTIVE TRACERS LAKE GENEVA FRANCE RESIDENCE TIME

MN-54

06696 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 SR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

MN-56

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-48 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

MODELS

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06210 DATING OF GROUNDWATER WITH TRITIUM AND C-14. RADIOACTIVE AGE DETERMINATION C-14 GROUND WATER SOIL MOISTURE MODELS

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. SEASONAL VARIATIONS PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL) GROUND WATER AUSTRIA KARST MIXING MODELS SURFACE WATERS CONCENTRATION

06244 STRATOSPHERIC TRITIUM (STRATOSPHERIC TRITIUM). PRECIPITATION (METEOROLOGICAL) RAINOUT GERMANY TROPOSPHERE MODELS STRATOSPHERE WASHOUT DEPOSITION

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06267 AQUIFER STORAGE DETERMINATION BY RADIOTRACER TECHNIQUES. TRACERS WATER STORAGE AQUIFERS MODELS MATHEMATICAL MODELS GROUND WATER CONCENTRATION

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR PULSES REPROCESSING EQUATIONS

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN PLOWSHARE PROGRAM TRITIATED WATER

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06367 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. RIVERS WATER TRANSPORT MATHEMATICAL MODELS MODELS HALF-LIFE HYDROLOGY

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06631 ASSESSMENT OF TRITIUM IN MAN. SAVANNAH RIVER PLANT ABSORPTION CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS MODELS URINE ANALYSIS BODY WATER MAN

06635 BIOLOGY AND HEALTH PHYSICS DIVISION,

PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA SOIL DENSITY NUCLEAR EXCAVATION

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. (TRITIUM STUDY OF THE DYNAMICS OF UNDERGROUND WATER.) MATHEMATICAL MODELS MODELS TRACERS UNDERGROUND WATER CIRCULATION HYDROLOGY

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07046 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLLOCATION MATHEMATICAL MODELS MODELS TRACERS

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. CONCENTRATION GROUND WATER MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE CLAYS SOILS PERMEABILITY

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. C-14 GROUND WATER AQUIFERS HYDROLOGY RECHARGE HYDROLOGIC MODELS MODELS SOUTH AFRICA

07175 COMPARISON OF HYDROLOGICAL AND MATHEMATICAL METHODS IN ANALYSIS OF TRITIUM DATA. MODELS HYDROLOGIC MODELS HYDROLOGY MATHEMATICAL ANALYSIS SPRINGS GROUND WATER

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

MOISTURE

06464 TRITIATED MOISTURE IN THE ATMOSPHERE SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ATMOSPHERE (TERRESTRIAL) MOISTURE SAMPLING TRITIATED WATER VAPOR

06613 DIFFUSION OF TRITIATED MOISTURE FROM A STREAM. STREAMS ATMOSPHERE (TERRESTRIAL) MOISTURE DIFFUSION RADIOACTIVE WASTE DISPOSAL TRITIATED WATER VAPOR RADIOACTIVE WASTES

MOLECULAR PROPERTIES

06932 PROPRIETES PHYSIQUES MOLECULAIRES DES ISOTOPES DE L'HYDROGENE ET DE LEURS COMBINAISONS ISOTOPIQUES; ETUDE BIBLIOGRAPHIQUE (MOLECULAR AND PHYSICAL PROPERTIES OF THE HYDROGEN ISOTOPES AND OF THEIR ISOTOPIC COMBINATIONS; BIBLIOGRAPHICAL COMPILATION). DEUTERIUM MOLECULAR PROPERTIES BIBLIOGRAPHY PHYSICAL PROPERTIES

MOLLUSKS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PLECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CB-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES BODY WATER SNAILS GASTROPODS AQUATIC LIFE MOLLUSKS ABSORPTION FISH RETENTION TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS REPORT, 1968-1969. Y-90 SR-90 CRASSOSTREA OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

MONITORING

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHAERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE MIXING RETENTION

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CB-141 CB-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

05104 TRITIUM HEALTH PHYSICS CONSIDERATIONS. RADIOACTIVITY MAXIMUM PERMISSIBLE CONCENTRATION TOXICITY GASES MONITORING TRITIATED WATER TRITIATED GAS

06193 C-14 OCH TRITIUM ISOTOPERNAS FÖREKOMST

OEVER SKANDINAVIEN UNDER SENARA AR MED TILLÄMPNING INOM MARKLABRA OCH HYDROLOGI (THE OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND HYDROLOGY). C-14 SCANDINAVIA HYDROLOGY FALLOUT SURFACE WATERS GROUND WATER MONITORING

06226 MONITORING FOR TRITIUM AT LOW LEVELS. ABSORPTION BETA RADIATION RADIATION URINE INSTRUMENTS BODY BURDEN MAN MONITORING TRITIATED WATER

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. MONITORING ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210 RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER MIAMI RIVER

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ENVIRONMENTAL RADIATION RADIATION MONITORING PLUTONIUM POLONIUM RIVERS GROUND WATER ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS. LUMINESCERS RADIOACTIVE LUMINOUS PAINTS TRITIATED WATER RADIATION PR-147 RA-226 MONITORING MAN

06793 CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS, JANUARY-DECEMBER, 1964. HANFORD PROJECT GROUND WATER MONITORING ISOCONCENTRATION LINES CONCENTRATION BETA RADIATION RADIOACTIVE WASTES

06820 MOUND LABORATORY, JANUARY-JUNE 1968. PO-210 PU-238 MONITORING RADIOACTIVE WASTES MIAMI RIVER

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). DETECTION RADIATION WATER VAPOR METHANE ORGANIC GASES PROPORTIONAL COUNTER MONITORING BETA RADIATION HYDROGEN

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

06977 TRITIUM CONTENT OF RAIN IN TRONDHEIM. CONCENTRATION RAINWATER RESIDENCE TIME STRATOSPHERE SR-90 PRECIPITATION (METEOROLOGICAL) MONITORING NORWAY

06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. ATMOSPHERIC TRITIUM DOSIMETERS PHOTOGRAPHIC DOSIMETERS THERMOLUMINESCENT DOSIMETERS RADIOPHOTOLUMINESCENT DOSIMETERS MONITORING PERSONNEL MONITORING

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO. PROJECT RULISON FLOWSHARE PROGRAM MONITORING RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS RESERVOIRS SURFACE WATERS

07071 INSTRUMENTATION FOR MONITORING OF KR-85 AND H-3 IN NATURAL GAS. MONITORING KR-85 INSTRUMENTS NATURAL GAS

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

07075 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING MOUND LABORATORY TRITIUM OXIDE MONITORING

07077 ENVIRONMENTAL ISOTOPE DATA NO. L; WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1953-1963). DEUTERIUM O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE AIR TEMPERATURE GLOBAL NETWORK MONITORING

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1989. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CB-141 CB-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1984. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07177 A SURVEILLANCE TECHNIQUE FOR TRITIATED MOISTURE IN THE ATMOSPHERE. TRITIATED WATER VAPOR MONITORING

07182 ENVIRONMENTAL ISOTOPE DATA NO 2. WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1964-1985). DEUTERIUM O-18 CONCENTRATION MONITORING PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY FLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

MONITORING NETWORKS

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN DIETS WATER ORGANS MONITORING NETWORKS AIRBORNE PARTICULATES

07159 RADIATION SURVEILLANCE NETWORKS. ENVIRONMENTAL MONITORING MILK DAIRY PRODUCTS FOODS RADIOACTIVITY PU-238 MONITORING NETWORKS

MONTMORILLONITE

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. DIFFUSION MONTMORILLONITE KAOLINITE TRACERS CLAYS SEDIMENTS SOILS DIFFUSION COEFFICIENT TRITIATED WATER

MORPHOLOGY

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PBAS TRITIATED THYMIDINE ROOTS MUTATIONS

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

MORTALITY

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

06603 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. THYMIDINE NUCLEIC ACIDS ORGANIC COMPOUNDS CELLS MAMMALS RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE DNA RADIATION EFFECTS MORTALITY

06865 ON THE DIFFERENCE BETWEEN THE LETHAL EFFECTS OF H-3 AND P-32 IN BACTERIA. MORTALITY P-32 BACTERIA MICROORGANISMS DNA CELLS RADIATION EFFECTS MATHEMATICAL MODELS

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS

RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

MOUND LABORATORY

07075 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING MOUND LABORATORY TRITIUM OXIDE MONITORING

07149 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1969. PU-238 PO-210 ENVIRONMENTAL MONITORING MOUND LABORATORY MIAMI RIVER RIVERS CONCENTRATION

MOUNTAINS

06269 TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. PRECIPITATION (METEOROLOGICAL) SNOW ALPINE ALPS MOUNTAINS FIRN PROFILES

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

MOVEMENT

00038 DISTRIBUTION OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS. NUCLEAR EXPLOSIONS NUCLEAR TESTING UNDERGROUND NUCLEAR TESTING SR-90 CO-60 SOILS TRANSPORT MOVEMENT FLOWSHARE PROGRAM

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

06212 TRITIUM HYDROLOGY IN NEW ZEALAND. HYDROLOGY NEW ZEALAND RAINWATER CONCENTRATION SURFACE WATERS GROUND WATER MOVEMENT TRACERS

06218 TRITIUM CONTENT AS AN INDICATOR OF AGE AND MOVEMENT OF GROUND WATER IN THE ROSWELL BASIN, NEW MEXICO. MOVEMENT AGE TRACERS NEW MEXICO CONCENTRATION GROUND WATER

06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED BY MEANS OF HYDROGEN ISOTOPES. MOVEMENT SOIL MOISTURE TRACERS SOILS EVAPOTRANSPIRATION DEUTERIUM

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06265 GROUNDWATER STUDIES IN THE SABI VALLEY, RHODESIA, USING NATURAL TRITIUM MEASUREMENTS. GROUND WATER RADIOACTIVE AGE DETERMINATION TRACERS MOVEMENT SABI VALLEY RHODESIA

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES WASTE DISPOSAL WASTES MOVEMENT GROUND WATER TRACERS STREAMS SAVANNAH RIVER PLANT

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS CANADA PERCH LAKE RADIOACTIVE WASTES WASTES RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES GROUND WATER TRITIATED WATER

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS LONG SHOT CONTAMINATION SURFACE WATERS GROUND WATER MOVEMENT

06363 MORATORIUM TRITIUM GEOPHYSICS. SURFACE WATERS ATMOSPHERE (TERRESTRIAL) NUCLEAR EXPLOSIONS EXPLOSIONS FALLOUT MOVEMENT STRATOSPHERE TROPOSPHERE

06364 MEASURING GROUND WATER MOVEMENT WITH RADIOACTIVE AND CHEMICAL TRACERS. TRACERS MOVEMENT HYDROLOGY TRITIATED WATER GROUND WATER

06368 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. FLOWERING PLANTS WATER VAPOR HELIANTHUS PLANTS NICOTIANA GASES TISSUES MOVEMENT DISTRIBUTION TRITIATED WATER TRANSPIRATION

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968, BIOLOGY AND HEALTH PHYSICS DIVISION. ATMOSPHERE (TERRESTRIAL) CANADA RIVERS GROWTH RINGS SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS DEPOSITION STRATOSPHERE TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE FLOWSHARE PROGRAM

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA. TRANSPORT RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIOACTIVE TRACERS TRACERS SOILS TRITIATED WATER MOVEMENT GROUND WATER

06611 MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND O-18 THROUGH ACIDIC KAOLINIFIC SOIL. O-18 TRACERS WATER SOILS DEUTERIUM MOVEMENT

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW AT THE SAVANNAH RIVER PLANT. GROUND WATER SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT TRACERS TRITIATED WATER MOVEMENT RADIOACTIVE WASTES

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA. WELLS AQUIPERS IRRIGATION GROUND WATER CALIFORNIA VELOCITY NUCLEAR TESTING MOVEMENT

06811 ENVIRONMENTAL TRITIUM IN CONJUNCTIVE USE STUDIES OF CONTINENTAL RIVER SYSTEMS. TRACERS

GROUND WATER SURFACE WATERS
HYDROGEOLOGIC ANALYSIS MOVEMENT

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 FE-55 SR-90 SB-125 BU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

07046 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLLOCATION MATHEMATICAL MODELS MODELS TRACERS

07056 THE PERCH LAKE EVAPORATION STUDY. RADIOACTIVE TRACERS TRACERS MOVEMENT HYDROLOGICAL CYCLING TRITIATED WATER VAPOR EVAPORATION TRITIATED WATER GROUND WATER WATER SURFACE WATERS

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER FLOWSHARE PROGRAM MOVEMENT CONTAMINATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS TRANSPORT GASES DIFFUSION KR-85 DIFFUSION EQUATION EQUATIONS

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. TRACERS SOIL MOISTURE MOVEMENT EVAPOTRANSPIRATION RAINWATER DISPERSION DEUTERIUM ENRICHMENT SOILS

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-161 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-86

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-8 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. CONCENTRATION GROUND WATER MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE CLAYS SOILS PERMEABILITY

07181 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING WASTE. RADIOACTIVE WASTES NUCLEAR FUEL PLANTS MOVEMENT SOILS GROUND WATER CONTAMINATION CONCENTRATION RADIOACTIVE WASTE DISPOSAL HANFORD PROJECT

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST. TRITIATED WATER MOVEMENT SOILS RAINFORESTS LITTER ROOTS RESIDENCE TIME PUERTO RICO TROPICS

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STROPOSPHERE CONTAMINATION

MT. EVEREST

06912 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER ACCUMULATION AND CLIMATOLOGY AT ORBAT EQUATORIAL ALTITUDES. TRITIATED WATER ICE SEASONAL VARIATIONS SNOW CONCENTRATION DEPOSITION MT. EVEREST RADIOACTIVE AGE DETERMINATION

MUSCLE

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE. ENZYMES CHEMICAL REACTIONS TAGGING TRITIATED WATER MUSCLE TISSUES RABBITS RODENTS

06437 THE MECHANISM OF THE TRIOSEPHOSPHATE ISOMERASE REACTION. CHEMICAL REACTIONS WATER ENZYMES TAGGING TRITIATED WATER ISOMERIZATION MUSCLE

06861 INTERNE KONTAMINATION MIT TRITIUM (INTERNAL CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE RADIATION EFFECTS RADIATION EXPOSURE

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

MUTATIONS

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06466 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

06637 EFFECTS OF INTRACELLULAR IRRADIATION WITH TRITIUM. CELLS RADIATION EFFECTS NUCLEIC ACIDS ORGANIC COMPOUNDS MUTATIONS TOXICITY DNA

06891 BIO-ORGANIC CHEMISTRY QUARTERLY REPORT; SEPTEMBER-NOVEMBER 1961. DEUTERIUM MUTATIONS DROSOPHILA GENETIC EFFECTS RADIATION EFFECTS DIPTERA INSECTS

07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. DNA TRITIATED THYMIDINE GENETIC EFFECTS BIOLOGICAL EFFECTS MUTATIONS RELATIVE BIOLOGICAL EFFECTIVENESS CELLS CELL NUCLEUS

07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE. TRITIATED THYMIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS RADIATION EFFECTS BIOLOGICAL EFFECTS GENETIC EFFECTS MUTATIONS

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. TRITIATED COMPOUNDS RADIATION EFFECTS GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA MICROORGANISMS BACTERIOPHAGES LETHALITY MUTATIONS ESCHERICHIA RADIATION DOSE

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS. MUTATIONS RADIATION EFFECTS GENETIC EFFECTS PEAS TRITIATED WATER VEGETABLES

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WATERS RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

NATIONAL REACTOR TESTING STATION

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06616 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL CHROMIUM GROUND WATER SURFACE WATERS AQUIPERS RADIOACTIVE WASTES TRACERS

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL SR-90 GROUND WATER SURFACE WATERS AQUIPERS RADIOACTIVE WASTES

06787 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTES ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL

06797 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. NATIONAL REACTOR TESTING STATION LITHOSPHERE ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06798 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06799 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06834 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION. RADIOACTIVE WASTES RADIATION NATIONAL REACTOR TESTING STATION GROUND WATER RADIOACTIVE WASTE DISPOSAL

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1963. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

NATURAL GAS

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN PEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY PROGRESS REPORT ON THE THEORETICAL EVALUATION OF CONSUMER PRODUCTS FROM PROJECT GASBUGGY. LIQUID HYDROCARBONS NATURAL GAS WATER GASES PLOWSHARE PROGRAM KR-85 PROJECT GASBUGGY

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE RADIATION EXPOSURE FOODS KR-85 RADIOACTIVE TRACERS TRACERS ENGINEERING CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS PLOWSHARE PROGRAM KR-85 XE-133 AR-37 C-14 VEGETATION PROJECT RULISON

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06823 POSSIBLE TECHNIQUES FOR DECONTAMINATION OF NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR EXPLOSION. TRITIATED METHANE TRITIATED ETHANE DECONTAMINATION EXCHANGE REACTIONS GAS WELLS NATURAL GAS KR-85

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1969. PLOWSHARE PROGRAM TRITIATED WATER SHALE DISTRIBUTION CANE THERMAL ANALYSIS NATURAL GAS HYDROGEN CONTAMINATION

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. NATURAL GAS CONTAMINATION PLOWSHARE PROGRAM KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS

CHEMICAL ANALYSIS PLUSHING DILUTION PROJECT GASBUGGY

07071 INSTRUMENTATION FOR MONITORING OF KR-85 AND H-3 IN NATURAL GAS. MONITORING KR-85 INSTRUMENTS NATURAL GAS

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY PLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS PLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

07138 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY PLOWSHARE PROGRAM KR-85 CONCENTRATION NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY PLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

07140 A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL. PROJECT GASBUGGY PLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY DOSE EQUIVALENTS RADIATION EXPOSURE KR-85 CONCENTRATION RADIOLOGICAL HAZARDS

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. CANE TRITIATED HYDROGEN TRITIATED METHANE SHALE CONTAMINATION TRITIATED WATER NATURAL GAS PLOWSHARE PROGRAM NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

NATURAL GAS STORAGE

07080 PURGING OF NUCLEAR CHIMNEYS. KR-85 UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH PLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

NA-22

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

NA-24

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PLECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-138 NA-24 P-32 SC-46 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

NB-95

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

NEOPLASIA

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

NERVOUS SYSTEM

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

NEUTRON FLUX

06849 CALCULATION OF LOW-ENERGY NEUTRON FLUX IN THE ATMOSPHERE BY THE S SUB N METHOD. C-14 NEUTRON FLUX SN METHOD COSMIC RAY NEUTRONS RADIATION ATMOSPHERE (TERRESTRIAL)

NEVADA TEST SITE

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II SOIL AND EJECTA STUDIES. PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS SOIL MOISTURE PERIODIC VARIATIONS SEDAN SOILS EJECTA RAINFALL DEPTH FLOWSHARE PROGRAM NEVADA TEST SITE

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER. LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE DISTRIBUTION RAINFALL DEPTH EJECTA PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION FLOWSHARE PROGRAM NEVADA TEST SITE

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT

LAKE TAHOE NEVADA TEST SITE CS-137 SR-90 CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES RAINFALL SURFACE WATERS

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE FLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE FLOWSHARE PROGRAM

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN FLOWSHARE PROGRAM NEVADA TEST SITE

06626 TRANSPORT OF RADIONUCLIDES BY GROUND WATER-SOME THEORETICAL ASPECTS. GROUND WATER TRANSPORT ROCK NEVADA TEST SITE TRACERS

06935 RESULTS FROM SEDAN POSTSHOT DRILLING. SEDAN UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION RADIATION NEVADA TEST SITE NUCLEAR CRATERS FLOWSHARE PROGRAM

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

NEW MEXICO

06218 TRITIUM CONTENT AS AN INDICATOR OF AGE AND MOVEMENT OF GROUND WATER IN THE ROSWELL BASIN, NEW MEXICO. MOVEMENT AGE TRACERS NEW MEXICO CONCENTRATION GROUND WATER

07073 CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE RADIOLOGICAL SAFETY REPORT. CARLSBAD ROLL-UP PROGRAM FLOWSHARE PROGRAM CONTAMINATION SOIL CONTAMINATION DECONTAMINATION NEW MEXICO RADIOACTIVE WASTES

07116 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS FLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

07165 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY FLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

NEW YORK

CONCENTRATION SR-90 I-131 NEW YORK

06475 TRITIUM IN NEW YORK STATE WATERS, 1965. NEW YORK RIVERS LAKES SAMPLING CONCENTRATION GROUND WATER

06822 RADIOACTIVITY IN NEW YORK SURFACE WATER, JANUARY-JUNE 1968. RADIATION NEW YORK SURFACE WATERS BETA RADIATION SR-89 SR-90 RADIOACTIVITY

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 1-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 1-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 1-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 1-129 AIR CONCENTRATION NEW YORK

NEW ZEALAND

06212 TRITIUM HYDROLOGY IN NEW ZEALAND. HYDROLOGY NEW ZEALAND RAINWATER CONCENTRATION SURFACE WATERS GROUND WATER MOVEMENT TRACERS

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. GROUND WATER CHLORIDES CONCENTRATION CIRCULATION DILUTION NEW ZEALAND MIXING TRITIATED WATER BORES GEOTHERMAL WATERS

NICOTIANA

06368 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. FLOWERING PLANTS WATER VAPOR HELIANTHUS PLANTS NICOTIANA GASES TISSUES MOVEMENT DISTRIBUTION TRITIATED WATER TRANSPIRATION

NITRATE IONS

07095 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT JULY- DECEMBER 1969. CONCENTRATION GROUND WATER CR-51 HANFORD PROJECT NITRATE IONS RU-106

NITRATES

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

NITRIC OXIDE

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

NITROGEN COMPOUNDS

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06419 HYDROGEN EXCHANGE IN PROTEINS. PROTEINS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GASES POLYPEPTIDES ISOTOPE EXCHANGE HYDROGEN

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06427 MEASUREMENT OF S PERIOD IN GROWING CELL POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE LABELING WITH H-3- AND C-14-THYMIDINE. C-14 TAGGING GROWTH THYMIDINE AMINO ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDS AND

PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06692 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

NI-59

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM. PE-55 NI-59 RADIATION MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER RADIOLOGICAL HAZARDS CONTAMINATION NUCLEAR REACTORS

NONMETALS

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE. CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM METABOLISM

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

NORTH AMERICA

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06353 DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE SOLAR ORIGIN OF NATURAL TRITIUM. DISTRIBUTION MATHEMATICAL ANALYSIS ANALYSIS PRODUCTION RATE NORTH AMERICA ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION

NORTH ATLANTIC OCEAN

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

NORTH PACIFIC OCEAN

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06228 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. SURFACE WATERS NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN INPUT-OUTPUT ANALYSIS ANALYSIS RESIDENCE TIME

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER. PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN SURFACE WATERS RESIDENCE TIME DEPTH SPECIFIC ACTIVITIES

06845 TRITIUM IN SURFACE WATERS OF THE NORTH PACIFIC. SURFACE WATERS OCEANS RADIATION RESIDENCE TIME MIXED LAYER NORTH PACIFIC OCEAN SPECIFIC ACTIVITIES

07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSSECS INTERCALIBRATION STATION. NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS CONCENTRATION DEPTH MIXING

NORWAY

06402 TRITIUM IN NATURE. SURFACE WATERS NORWAY COSMIC RADIATION HE-3 RADIATION DEUTERIUM

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

06977 TRITIUM CONTENT OF RAIN IN TRONDHEIM. CONCENTRATION RAINWATER RESIDENCE TIME STRATOSPHERE SR-90 PRECIPITATION (METEOROLOGICAL) MONITORING NORWAY

NP-239

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

NUCLEAR CHIMNEYS

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. TRITIATED WATER PLOWSHARE PROGRAM CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS OIL LEACHING CONCENTRATION OIL SHALE

07060 PURGING OF NUCLEAR CHIMNEYS. KR-85 UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH PLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY PLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS PLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

07138 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY PLOWSHARE PROGRAM KR-85 CONCENTRATION NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY PLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

NUCLEAR CLOUDS

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-46 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

NUCLEAR CRATERS

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

06371 THE PERSISTENCE OF RADIONUCLIDES AT SITES OF NUCLEAR DETONATIONS. NUCLEAR EXPLOSIONS RADIOACTIVITY DISTRIBUTION NUCLEAR CRATERS RETENTION

06372 THE PATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN PLOWSHARE EVENTS. PLOWSHARE PROGRAM SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE PLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN PLOWSHARE PROGRAM NEVADA TEST SITE

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM SOILS

06935 RESULTS FROM SEDAN POSTSHOT DRILLING.
SEDAN UNDERGROUND NUCLEAR EXPLOSIONS
NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION
RADIATION NEVADA TEST SITE NUCLEAR CRATERS
FLOWSHARE PROGRAM

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON
AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS
ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO
RATS LIVING IN A TRITIATED ENVIRONMENT.
KANGAROO RATS RATS RODENTS MAMMALS
RADIATION EXPOSURE BODY WATER TISSUES
SPECIFIC ACTIVITIES RADIATION DOSE
NUCLEAR CRATERS SEDAN FLOWSHARE PROGRAM
CONCENTRATION BIOLOGY DNA HABITATS

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF
RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-161
DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER
NUCLEAR CRATERS NUCLEAR TESTING EJECTA
CONCENTRATION RAINFALL SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54
NB-95 CO-56 Y-88

NUCLEAR DNA

06803 INCORPORATION OF (H-3) THYMIDINE INTO
NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED
MAMMALIAN CELLS. LIVER CELLS DNA NUCLEAR DNA
MITOCHONDRIAL DNA TRITIATED THYMIDINE UPTAKE

NUCLEAR EXCAVATION

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY
FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC
CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES
AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN
PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS
PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL
COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA
SOIL DENSITY NUCLEAR EXCAVATION

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES; PHASE III.
PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION
EXTERNAL DOSE INTERNAL DOSE INREM EXREM
RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS
ORGANS SKIN INGESTION NUCLEAR EXCAVATION
SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI)
SR-89 MAN 1-131 ROUTE 17 (ATRATO-TRUANDO)
COMPUTER MODELS

NUCLEAR EXPLOSIONS

00038 DISTRIBUTION OF RADIONUCLIDES FROM
UNDERGROUND NUCLEAR EXPLOSIONS.
NUCLEAR EXPLOSIONS NUCLEAR TESTING
UNDERGROUND NUCLEAR TESTING SR-90 CO-60 SOILS
TRANSPORT MOVEMENT FLOWSHARE PROGRAM

04136 DER ANSTIEG DES TRITIUMGEBHALTES IM
ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE
IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN
SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION
MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
TROPOSPHERE MIXING RETENTION

06239 RESIDUAL TRITIUM AT SEDAN CRATER.
PRECIPITATION (METEOROLOGICAL) TRANSPIRATION
RADIATION EXPOSURE BODY WATER PLANTS
BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS
MAMMALS RODENTS SOILS THROWOUT
NUCLEAR EXPLOSIONS SEDAN RATS RODENTS
NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS
FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO
COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING
TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR
EXPLOSION IN WESTERN COLORADO.
UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING
NUCLEAR TESTING TRANSPORT CONTAMINATION
ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY
HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO
FLOWSHARE PROGRAM PROJECT GASBUGGY
PROJECT RULISON

06268 TRITIUM DISTRIBUTION IN GROUND WATER AROUND
LARGE UNDERGROUND FUSION EXPLOSIONS.
UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS
NUCLEAR EXPLOSIONS GROUND WATER
FLOWSHARE PROGRAM DISTRIBUTION TRITIATED WATER

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT
SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY
GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA
EXPLOSIONS ALUTIAN ISLANDS
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
SURFACE WATERS CONTAMINATION STRATIGRAPHY
PETROGRAPHY SEISMIC REFRACTION PROFILES
TRANSPORT TRITIATED WATER GROUND WATER

06363 MORATORIUM TRITIUM GEOPHYSICS.
SURFACE WATERS ATMOSPHERE (TERRESTRIAL)
NUCLEAR EXPLOSIONS EXPLOSIONS FALLOUT MOVEMENT
STRATOSPHERE TROPOSPHERE

06371 THE PERSISTENCE OF RADIONUCLIDES AT SITES
OF NUCLEAR DETONATIONS. NUCLEAR EXPLOSIONS
RADIOACTIVITY DISTRIBUTION NUCLEAR CRATERS
RETENTION

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES
PRODUCED IN FLOWSHARE EVENTS. FLOWSHARE PROGRAM
SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS
EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06382 THE EFFECTS OF THE MARINE BIOSPHERE AND
HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF
CONTAMINANT RADIONUCLIDES. SEA WATER
NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT
COLOMBIA GULF OF SAN MIGUEL ISOTOPE EXCHANGE
SPECIFIC ACTIVITIES

06384 APPROACHES TO THE CALCULATION OF
LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL
PURPOSES. NUCLEAR EXPLOSIONS EXPLOSIONS KR-85
C-14 MATHEMATICAL ANALYSIS ANALYSIS
MAXIMUM PERMISSIBLE CONCENTRATION

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY
SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS
CONTAMINATION RADIOACTIVE WASTE DISPOSAL
GROUND WATER MOVEMENT PROJECT GNOME
NEVADA TEST SITE FLOWSHARE PROGRAM

06399 GROUND WATER CONTAMINATION PREDICTIONS.
CONTAMINATION SAFETY NUCLEAR EXPLOSIONS
EXPLOSIONS FISSION PRODUCTS
RADIOACTIVE WASTE DISPOSAL GROUND WATER
CONCENTRATION

06429 PROJECT RULISON; POST-SHOT PLANS AND
EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY
NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS
FLOWSHARE PROGRAM KR-85 XE-133 AR-37 C-14
VEGETATION PROJECT RULISON

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL
COMPOSITION OF NATURAL GAS FROM THE CAVITY
PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT.
CHEMICAL COMPOSITION CHEMICAL ANALYSIS
RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS
NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85
EXPLOSIONS METHANE ETHANE HYDROGEN
CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN
TRITIATED WATER

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR
PROJECT SCHOONER. NUCLEAR EXPLOSIONS
DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS
FALLOUT COWS LIVESTOCK MAMMALS SAMPLING
INGESTION INHALATION PROJECT SCHOONER
RESIDENCE TIME NUCLEAR CRATERS FLOWSHARE PROGRAM
SOILS

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY;
FINAL REPORT. PROJECT SHOAL
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
CONTAMINATION GROUND WATER CB-144 PM-147
RU-106 CS-137 PE-55 SR-90 SB-125 EU-155
SM-151 CD-113 GD-153 TRANSPORT MOVEMENT
HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION
PRODUCTS. FALLOUT C-14
ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE
NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY
BETA RADIATION GAMMA RADIATION

06935 RESULTS FROM SEDAN POSTSHOT DRILLING.
SEDAN UNDERGROUND NUCLEAR EXPLOSIONS
NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION
RADIATION NEVADA TEST SITE NUCLEAR CRATERS
FLOWSHARE PROGRAM

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE LATOMSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION). TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER COSMIC RADIATION RADIATION REACTORS SOIL CONTAMINATION NUCLEAR EXPLOSIONS

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

06969 TRANSFER OF CARBON 14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN. C-14 STRATOSPHERE TROPOSPHERE TRANSFER OCEANS THERMOCLINE RATE CONSTANTS NUCLEAR EXPLOSIONS

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS ACCUMULATION ECOSYSTEMS 06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS CONCENTRATION SOILS DEPTH

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPE PRODUCTION TRITIATED WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION FLOWSHARE PROGRAM ALUTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING AMCHITKA ISLAND WATER

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07080 PURGING OF NUCLEAR CHIMNEYS. KR-85 UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH FLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

07086 PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT; I. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN-WATER SYSTEM. NUCLEAR EXPLOSIONS EXPLOSIONS SALT MEDIUM ISOTOPE EXCHANGE EXCHANGE RATE DEUTERIUM WATER

07138 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY FLOWSHARE PROGRAM KR-85 CONCENTRATION NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL)

ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. CANE TRITIATED HYDROGEN TRITIATED METHANE SHALE CONTAMINATION TRITIATED WATER NATURAL GAS FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

NUCLEAR FUEL PLANTS

06464 TRITIATED MOISTURE IN THE ATMOSPHERE SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ATMOSPHERE (TERRESTRIAL) MOISTURE SAMPLING TRITIATED WATER VAPOR

06465 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1968. SURFACE WATERS CLINCH RIVER RIVERS POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06466 TRITIUM IN SURFACE WATER NETWORK, 1967. SURFACE WATERS RIVERS SAVANNAH RIVER POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06471 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1969. SAMPLING SURFACE WATERS CLINCH RIVER RIVERS WATER POLLUTION POLLUTION NUCLEAR FUEL PLANTS

06476 TRITIUM IN SURFACE WATER NETWORK, JULY-DECEMBER 1968. SURFACE WATERS SAVANNAH RIVER RIVERS SAMPLING CONCENTRATION NUCLEAR FUEL PLANTS

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW AT THE SAVANNAH RIVER PLANT. GROUND WATER SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT TRACERS TRITIATED WATER MOVEMENT RADIOACTIVE WASTES

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. CONTAMINATION RADIOACTIVE TRACERS TRACERS STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS TRITIATED WATER ATMOSPHERE (TERRESTRIAL) DISTILLATION SCINTILLATION COUNTING

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06807 MANAGEMENT OF FISSION PRODUCT TRITIUM IN FUEL PROCESSING WASTES. RECYCLING DECONTAMINATION SURFACE WATERS GROUND WATER NUCLEAR FUEL PLANTS RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

06988 TRITIUM SOURCES AND RELEASE TO THE ENVIRONMENT. CONCENTRATION NUCLEAR FUEL PLANTS NUCLEAR POWER INDUSTRY RADIOACTIVE WASTES NUCLEAR REACTORS

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ENVIRONMENTAL MONITORING STACK EMISSIONS I-129 KR-85 CONCENTRATION AIRBORNE PARTICULATES RADIOACTIVITY

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07098 ORNL EXPERIMENTS ON THE BEHAVIOR OF TRITIUM DURING HEAD-END PROCESSING OF IRRADIATED REACTOR FUELS. NUCLEAR FUEL PLANTS KR-85 FUEL PROCESSING

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS.
AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS
NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT
THYROID GLAND BONE WHOLE BODY EXPOSURE
NUCLEAR REACTORS

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM
INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES.
CONTAMINATION NUCLEAR REACTORS REACTORS
NUCLEAR POWER NUCLEAR FUEL PLANTS
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
CONCENTRATION LAKES

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A
PLUME USING TRITIATED MOISTURE.
TRITIATED WATER VAPOR RADIOACTIVE TRACERS
TRACERS NUCLEAR FUEL PLANTS STACK DISPERSION
RADIOACTIVE WASTES EFFLUENT AIR
LIQUID SCINTILLATION COUNTING

07181 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING
WASTE. RADIOACTIVE WASTES NUCLEAR FUEL PLANTS
MOVEMENT SOILS GROUND WATER CONTAMINATION
CONCENTRATION RADIOACTIVE WASTE DISPOSAL
HANFORD PROJECT

07184 RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER
REACTORS AND THE POPULATION. RADIATION EXPOSURE
NUCLEAR POWER INDUSTRY NUCLEAR REACTORS
NUCLEAR FUEL PLANTS DOSE ESTIMATION
RADIOACTIVE WASTES MAN

NUCLEAR POWER

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR
POWERPLANTS. NUCLEAR REACTORS REACTORS
NUCLEAR POWER WASTES RADIOACTIVE WASTES
SURFACE WATERS CONCENTRATION SAMPLING
TRITIATED WATER

07063 HAZARDS OF TRITIUM FROM CONTROLLED FUSION.
RADIOLOGICAL HAZARDS NUCLEAR POWER

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM
INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES.
CONTAMINATION NUCLEAR REACTORS REACTORS
NUCLEAR POWER NUCLEAR FUEL PLANTS
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
CONCENTRATION LAKES

NUCLEAR POWER INDUSTRY

06208 RADIOACTIVE WASTES FROM FUSION REACTORS.
RADIOACTIVE WASTES WASTES NUCLEAR REACTORS
NUCLEAR POWER INDUSTRY FUSION FUELS

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE
AND SOURCES OF TRITIATED METHANE. HYDROGEN GASES
METHANE NUCLEAR POWER INDUSTRY T/H RATIO
ATMOSPHERE (TERRESTRIAL) TRITIATED METHANE

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON
RELEASE TO THE ENVIRONMENT. NUCLEAR REACTORS
ENVIRONMENTAL RADIATION SURFACE WATERS RADIATION
TRITIATED WATER NUCLEAR POWER INDUSTRY
GROUND WATER HYDROLOGICAL CYCLING

06988 TRITIUM SOURCES AND RELEASE TO THE
ENVIRONMENT. CONCENTRATION NUCLEAR FUEL PLANTS
NUCLEAR POWER INDUSTRY RADIOACTIVE WASTES
NUCLEAR REACTORS

07135 ZUR FRAGE DER FESTSETZUNG HOECHST
ZUGELASSENER WERTE BEI DER ABLEITUNG
TRITIUMHALTIGER ABWASSER. (THE QUESTION OF
DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE
RELEASE OF TRITIUM-CONTAINING WASTE WATER.)
NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY
GERMANY RADIOACTIVE WASTE DISPOSAL
WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

07184 RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER
REACTORS AND THE POPULATION. RADIATION EXPOSURE
NUCLEAR POWER INDUSTRY NUCLEAR REACTORS
NUCLEAR FUEL PLANTS DOSE ESTIMATION
RADIOACTIVE WASTES MAN

07187 FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES
FROM NUCLEAR POWER PRODUCTION. GREAT LAKES
LAKE MICHIGAN NUCLEAR REACTORS
NUCLEAR POWER INDUSTRY TRANSPORT CONCENTRATION
RADIOACTIVITY

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC
POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS
CONCENTRATION SURFACE WATERS
RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS
RADIATION DOSE RADIOLOGICAL HAZARDS
TRITIATED WATER MUTATIONS RADIATION EFFECTS

GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC
POWER. NUCLEAR POWER INDUSTRY
BIOLOGICAL HALF-LIFE RADIATION EFFECTS
ENRICHMENT MOVEMENT FOOD-CHAINS
RADIOACTIVE WASTE DISPOSAL
ENVIRONMENTAL MONITORING NUCLEAR REACTORS
RADIATION EXPOSURE T/H RATIO
ATMOSPHERE (TERRESTRIAL) STROPOSPHERE
CONTAMINATION

NUCLEAR PROPERTIES

06934 TRITIUM (H-3); A BIBLIOGRAPHY OF
UNCLASSIFIED LITERATURE. DEUTERIUM BIBLIOGRAPHY
NUCLEAR PROPERTIES PHYSICAL PROPERTIES TRACERS

NUCLEAR RADIATION

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND
ITS OCCURRENCE IN ATMOSPHERIC METHANE.
DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE
ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE
TROPOSPHERE TRITIATED WATER MIXING
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM
NUCLEAR RADIATION PERIODIC VARIATIONS C-14

NUCLEAR REACTORS

06204 TRITIUM CONTENT OF ATMOSPHERIC METHANE AND
ETHANE. GASES METHANE ETHANE NUCLEAR REACTORS
ATMOSPHERE (TERRESTRIAL) T/H RATIO

06208 RADIOACTIVE WASTES FROM FUSION REACTORS.
RADIOACTIVE WASTES WASTES NUCLEAR REACTORS
NUCLEAR POWER INDUSTRY FUSION FUELS

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON
RELEASE TO THE ENVIRONMENT. NUCLEAR REACTORS
ENVIRONMENTAL RADIATION SURFACE WATERS RADIATION
TRITIATED WATER NUCLEAR POWER INDUSTRY
GROUND WATER HYDROLOGICAL CYCLING

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF
RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM
NUCLEAR REACTORS.
MAXIMUM PERMISSIBLE CONCENTRATION
NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137
C-14 KR-85 MAN ORGANS SR-89

06614 A PEAK IN THE TRITIUM CONTENT OF
ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT
WINDSCALE. ACCIDENTS ATMOSPHERE (TERRESTRIAL)
GASES HYDROGEN TRITIATED HYDROGEN WINDSCALE
NUCLEAR REACTORS

06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR
LA VAPEUR D'EAU TRITIEE AUPRES DE LA PILE EL 3
(DETECTION OF THE CONTAMINATION OF AIR BY
TRITIATED WATER VAPOR AROUND THE REACTOR EL 3).
AIR POLLUTION WATER VAPOR CONTAMINATION
POLLUTION GASES EQUIPMENT NUCLEAR REACTORS
TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

06846 ESTIMATION OF DILUTION RATE FACTORS FOR
TRITIATED WATER VAPOUR FROM A REACTOR STACK.
TRITIATED WATER NUCLEAR REACTORS DILUTION RATE
WATER VAPOR

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM.
FE-55 NI-59 RADIATION
MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER
RADIOLOGICAL HAZARDS CONTAMINATION
NUCLEAR REACTORS

06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS.
GAS-GRAPHITE REACTORS HEAVY WATER REACTORS
LATINA REACTOR NUCLEAR REACTORS ACTIVATION
HAZARDS TRITIATED WATER RADIOLOGICAL HAZARDS

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY
WATER REACTORS. TRITIUM OXIDE RADIATION
HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE
VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS
NUCLEAR REACTORS

06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH
REACTORS. HEAVY WATER REACTORS
TRITIUM PERMEABILITY POLYVINYL CHLORIDE
POLYMER FILMS TRITIATED WATER
RADIOLOGICAL HAZARDS NUCLEAR REACTORS

06988 TRITIUM SOURCES AND RELEASE TO THE
ENVIRONMENT. CONCENTRATION NUCLEAR FUEL PLANTS
NUCLEAR POWER INDUSTRY RADIOACTIVE WASTES
NUCLEAR REACTORS

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS. RADIOLOGICAL HAZARDS HEAVY WATER REACTORS NUCLEAR REACTORS CONCENTRATION ASSIMILATION URINE BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

07030 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS. NUCLEAR REACTORS REACTORS NUCLEAR POWER WASTES RADIOACTIVE WASTES SURFACE WATERS CONCENTRATION SAMPLING TRITIATED WATER

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR. LI-7 NUCLEAR REACTORS COOLANT ADDITIVES B-10 SAN ONOPRE REACTOR SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR COMPUTER PROGRAMS

07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM ABCL REACTOR STACK. SNOW PRECIPITATION (METEOROLOGICAL) TRITIUM OXIDE CANADA SPECIFIC ACTIVITIES DILUTION RATE FACTORS NUCLEAR REACTORS

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS. AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT THYROID GLAND BONE WHOLE BODY EXPOSURE NUCLEAR REACTORS

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES. CONTAMINATION NUCLEAR REACTORS REACTORS NUCLEAR POWER NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONCENTRATION LAKES

07135 ZUR FRAGE DER FESTSETZUNG HOCHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER. (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER.) NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY GERMANY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

07184 RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER REACTORS AND THE POPULATION. RADIATION EXPOSURE NUCLEAR POWER INDUSTRY NUCLEAR REACTORS NUCLEAR FUEL PLANTS DOSE ESTIMATION RADIOACTIVE WASTES MAN

07187 FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES FROM NUCLEAR POWER PRODUCTION. GREAT LAKES LAKE MICHIGAN NUCLEAR REACTORS NUCLEAR POWER INDUSTRY TRANSPORT CONCENTRATION RADIOACTIVITY

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WATERS RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STRATOSPHERE CONTAMINATION

NUCLEAR TESTING

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING RADIATION DOSE DOSE ESTIMATION GROUND WATER FALLOUT ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RADIOACTIVE WASTES

00038 DISTRIBUTION OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS. NUCLEAR EXPLOSIONS NUCLEAR TESTING UNDERGROUND NUCLEAR TESTING SR-90 CO-60 SOILS TRANSPORT MOVEMENT PLOWSHARE PROGRAM

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM. C-14 CARBON DIOXIDE NUCLEAR TESTING STRATOSPHERE PANAMA CANAL ZONE RADIOBIOLOGY

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA. WELLS AQUIFERS IRRIGATION GROUND WATER CALIFORNIA VELOCITY NUCLEAR TESTING MOVEMENT

06893 TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN FALLOUT RH-102 TROPOSPHERE STRATOSPHERE DEUTERIUM NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER. DEUTERIUM HYDROGEN RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06956 MEASUREMENT OF TRITIUM AT NATURAL LEVELS. CITY WATER RAINWATER WELL WATER NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) CONTAMINATION

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC TRITIUM FROM THERMONUCLEAR EXPLOSIONS). PRECIPITATION (METEOROLOGICAL) RAINFALL ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING FRANCE

06964 THE DETERMINATION OF TRITIUM IN NATURAL WATERS. RAINWATER SEA WATER SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING CANADA WASHOUT

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING 1966, 1967, AND 1968. RAINOUT FALLOUT PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING DISTRIBUTION RAINFALL SAMPLING SAMPLING NETWORKS

07013 TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN SPECIFIC ACTIVITIES ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING AIR

07018 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. DEUTERIUM CONCENTRATION ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PERIODIC VARIATIONS

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) FALLOUT CANADA EUROPE ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RAINFALL PRECIPITATION (METEOROLOGICAL) CONCENTRATION

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN PLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

NUCLEAR WARHEADS

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

NUCLEIC ACIDS

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE PLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELLED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DNA DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE

NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06603 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. THYMIDINE NUCLEIC ACIDS ORGANIC COMPOUNDS CELLS MAMMALS RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE DNA RADIATION EFFECTS MORTALITY

06637 EFFECTS OF INTRACELLULAR IRRADIATION WITH TRITIUM. CELLS RADIATION EFFECTS NUCLEIC ACIDS ORGANIC COMPOUNDS MUTATIONS TOXICITY DNA

06954 BEISPIELE FUER DEN INTRAZELLULAREN TRITIUM-STOPFWECHSEL (EXAMPLES FOR THE INTRACELLULAR TRITIUM METABOLISM). INTRANUCLEAR LABELING CELLS AMINO ACIDS LIPIDS NUCLEIC ACIDS METABOLISM

NUCLEOLI

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. TRITIATED ACTINOMYCIN D ANTIBIOTICS OCCYTE NUCLEUS NUCLEUS NUCLEOLI DNA LABELING POLYPEPTIDES

NUCLEUS

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. TRITIATED ACTINOMYCIN D ANTIBIOTICS OCCYTE NUCLEUS NUCLEUS NUCLEOLI DNA LABELING POLYPEPTIDES

OCCUPATIONAL EXPOSURE

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 RU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

OCCYTE NUCLEUS

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. TRITIATED ACTINOMYCIN D ANTIBIOTICS OCCYTE NUCLEUS NUCLEUS NUCLEOLI DNA LABELING POLYPEPTIDES

OCEANOGRAPHY

06190 TRITIUM GEOPHYSICS AS AN INTERNATIONAL RESEARCH PROJECT. GEOPHYSICS HYDROLOGY COSMIC RADIATION METEOROLOGY OCEANOGRAPHY TRACERS

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

OCEANS

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES. ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS SURFACE WATERS CIRCULATION MIXING ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

06228 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. SURFACE WATERS NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN INPUT-OUTPUT ANALYSIS ANALYSIS RESIDENCE TIME

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06278 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE ENVIRONMENT. BEHAVIOR ENVIRONMENTS OXIDATION FALLOUT RESIDENCE TIME STRATOSPHERE OCEANS TRITIATED WATER

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER. PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN SURFACE WATERS RESIDENCE TIME DEPTH SPECIFIC ACTIVITIES

06397 TRITIUM IN NATURE. COSMIC RADIATION PRECIPITATION (METEOROLOGICAL) WATER LAKES OCEANS RIVERS SURFACE WATERS PRODUCTION RATE WINES SEA WATER

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

06788 TRITIUM TRACER IN ARCTIC PROBLEMS. TRACERS SEA WATER ICE OCEANS ARCTIC OCEAN MIXING EXCHANGE CONCENTRATION

06845 TRITIUM IN SURFACE WATERS OF THE NORTH PACIFIC. SURFACE WATERS OCEANS RADIATION RESIDENCE TIME MIXED LAYER NORTH PACIFIC OCEAN SPECIFIC ACTIVITIES

06876 STOCKHOLM NATURAL TRITIUM MEASUREMENTS 1. DEUTERIUM OCEANS BALTIC SEA PRECIPITATION (METEOROLOGICAL) RAINWATER

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING

ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

06969 TRANSFER OF CARBON 14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN. C-14 STRATOSPHERE TROPOSPHERE TRANSFER OCEANS THERMOCLINE RATE CONSTANTS NUCLEAR EXPLOSIONS

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSCECS INTERCALIBRATION STATION. NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS CONCENTRATION DEPTH MIXING

07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS SARGASSO SEA OCEANS SR-90 FALLOUT ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION DEPTH ACTIVATION ANALYSIS

07135 ZUR FRAGE DER FESTSETZUNG HOCHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER. (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER.) NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY GERMANY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

OHIO RIVER

06808 ENVIRONMENT RADIOACTIVITY AT THE SHIPPINGPORT ATOMIC POWER STATION FOR THE SECOND HALF OF 1963 AND FOR CALENDAR YEAR 1963. SHIPPINGPORT ATOMIC POWER STATION OHIO RIVER FALLOUT BETA RADIATION RADIOACTIVE WASTES

06819 SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966. OHIO RIVER SHIPPINGPORT ATOMIC POWER STATION RADIOACTIVE WASTES ENVIRONMENTAL MONITORING RADIOACTIVITY ALPHA RADIATION BETA RADIATION

OIL

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. TRITIATED WATER FLOWSHARE PROGRAM CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS OIL LEACHING CONCENTRATION OIL SHALE

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. CONTAMINATION OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE RETORTED OIL

OIL SHALE

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANB) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. FLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

06890 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANB) - PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1968. TRITIATED WATER SHALE DISTRIBUTION THERMAL ANALYSIS CANE FLOWSHARE PROGRAM CONTAMINATION OIL SHALE

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. TRITIATED WATER FLOWSHARE PROGRAM CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS OIL LEACHING CONCENTRATION OIL SHALE

07055 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1969. CANE FLOWSHARE PROGRAM OIL SHALE CONTAMINATION RETORTED OIL

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. CONTAMINATION OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE RETORTED OIL

ONIONS

06666 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. TRITIATED WATER ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT CL-36 UPTAKE TRANSPORT

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

OPERATION CASTLE

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

OPUNTIA

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

ORGANIC CELL SUBSTANCES

06658 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). METABOLISM TRITIATED WATER MICE LIVER ORGANIC CELL SUBSTANCES BRAIN TISSUES IRRADIATION

ORGANIC COMPOUNDS

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-8 DYES TRITIATED WATER MOVEMENT GROUND WATER

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06385 STUDYING THE DIFFUSION OF AQUEOUS VAPOURS IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM. RADIOACTIVE TRACERS TRACERS DIFFUSION WATER VAPOR GASES ORGANIC COMPOUNDS POLYMERS

06419 HYDROGEN EXCHANGE IN PROTEINS. PROTEINS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GASES POLYPEPTIDES ISOTOPE EXCHANGE HYDROGEN

06420 ON THE MECHANISM OF THE SELF-INDUCED EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC HYDROCARBONS. TAGGING CHEMICAL REACTIONS EXCHANGE REACTIONS ORGANIC COMPOUNDS HYDROCARBONS TRITIATED COMPOUNDS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06427 MEASUREMENT OF S PERIOD IN GROWING CELL POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE LABELING WITH H-3- AND C-14-THYMIDINE. C-14 TAGGING GROWTH THYMIDINE AMINO ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDS AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER. FATTY ACIDS ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER BIOCHEMISTRY

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06603 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. THYMIDINE NUCLEIC ACIDS ORGANIC COMPOUNDS CELLS MAMMALS RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE DNA RADIATION EFFECTS MORTALITY

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS ANALYSIS ETHANE CHEMICAL ANALYSIS ORGANIC COMPOUNDS ETHYLENE CONCENTRATION GERMANY

06637 EFFECTS OF INTRACELLULAR IRRADIATION WITH TRITIUM. CELLS RADIATION EFFECTS NUCLEIC ACIDS ORGANIC COMPOUNDS MUTATIONS TOXICITY DNA

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

ORGANIC GASES

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). DETECTION RADIATION WATER VAPOR METHANE ORGANIC GASES PROPORTIONAL COUNTER MONITORING BETA RADIATION HYDROGEN

ORGANS

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER FATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION STUDIES. TRITIATED THYMIDINE X-IRRADIATION RADIATION ORGANS RATS UPTAKE KIDNEY RADIATION EFFECTS

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ORGANS MICE TRITIATED WATER IRRADIATION SKIN WHOLE BODY EXPOSURE RADIATION EFFECTS

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS ACCUMULATION ECOSYSTEMS 06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS CONCENTRATION SOILS DEPTH

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS FETUS EMBRYO

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN DIETS WATER ORGANS MONITORING NETWORKS AIRBORNE PARTICULATES

07101 EVALUATION OF POTENTIAL HAZARDS FROM

TRITIUM WATER. RADIOLOGICAL HAZARDS TRITIATED WATER BIOLOGICAL DOSE EQUIVALENTS EXCRETION CONCENTRATION ORGANS DNA GENETIC EFFECTS

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

OTTAWA RIVER

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

OXIDATION

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. OXIDATION MAMMALS BACTERIA PLANTS MICROORGANISMS RATS RODENTS PHYSIOLOGY

06278 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE ENVIRONMENT. BEHAVIOR ENVIRONMENTS OXIDATION FALLOUT RESIDENCE TIME STRATOSPHERE OCEANS TRITIATED WATER

06946 DETECTION ET MEASURE DE LA CONTAMINATION DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF THE CONTAMINATION OF GASES AND VAPORS). TRITIATED WATER OXIDATION FISSION PRODUCTS METALLIC TRITIDES TRITIATED HYDROGEN CONTAMINATION

06953 TRITIUM ET VAPEUR D'EAU TRITIÉE- DUREES LIMITEES D'EXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE (TRITIUM AND TRITIATED WATER VAPOR- TIME LIMITS FOR ACCIDENTAL EXPOSURE IN STABLE OR RENEWED ATMOSPHERE). TRITIATED WATER VAPOR RESPIRATORY INTAKE OXIDATION VENTILATION RADIATION EXPOSURE

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

OXIDES

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS TISSUES DEUTERIUM T/D RATIO

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06376 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS TRITIUM OXIDE RETENTION

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES BODY WATER SNAILS GASTROPODS AQUATIC LIFE MOLLUSKS ABSORPTION FISH RETENTION TRITIUM OXIDE SALMON PLY MAYFLY NYMPHS

06380 EFFECT OF RADIATION ON THE INCORPORATION OF TRITIUM BY THE RAT. OXIDES RATS MAMMALS RODENTS TISSUES TRITIUM OXIDE ABSORPTION

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS GROWTH TRITIUM OXIDE RADIATION EFFECTS

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY RADIATION EFFECTS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06439 MEASUREMENT OF TRITIUM SURFACE CONTAMINATION. OXIDES SCINTILLATION COUNTING CONTAMINATION MEASUREMENT

06469 HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM OXIDE. MAXIMUM PERMISSIBLE CONCENTRATION RADIATION EXPOSURE OXIDES BIOLOGICAL EFFECTIVENESS TRITIUM OXIDE RADIATION HAZARDS

06506 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06509 TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER. OXIDES HAZARDS WHOLE BODY EXPOSURE ABSORPTION RADIATION EXPOSURE MAXIMUM PERMISSIBLE CONCENTRATION SAFETY TRITIUM OXIDE EXCRETION

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND

EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND CHEMICAL ANALYTICAL RESULTS. KR-85 AR-37 AR-39 OXIDES PROJECT GASBUGGY CONCENTRATION C-14 TRITIATED WATER

07115 THE USE OF WATER AS A SAMPLING MEDIUM FOR TRITIUM OXIDE. BETA RADIATION HANFORD PROJECT ENVIRONMENTAL MONITORING OXIDES SAMPLING TRITIUM OXIDE CONTAMINATION

OYSTERS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELICYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT 1-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS REPORT, 1966-1969. Y-90 SR-90 CRASSOSTREA OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

O-18

06213 OXYGEN-18 ET TRITIUM DANS LE BASSIN DEVIAN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). O-18 HYDRODYNAMICS FRANCE SAMPLING WATER TABLE HYDROLOGY TRACERS

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06236 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

07077 ENVIRONMENTAL ISOTOPE DATA NO. 1; WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1953-1963). DEUTERIUM O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE AIR TEMPERATURE GLOBAL NETWORK MONITORING

07166 VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) SNOWPACK CZECHOSLOVAKIA SNOW RAINFALL WATER BALANCE

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. O-18 ALPS CONCENTRATION SPRINGS SEASONAL VARIATIONS RECHARGE GROUND WATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

07182 ENVIRONMENTAL ISOTOPE DATA NO. 2. WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1964-1965). DEUTERIUM O-18 CONCENTRATION MONITORING PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE

PACIFIC OCEAN

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06226 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. SURFACE WATERS NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN INPUT-OUTPUT ANALYSIS ANALYSIS RESIDENCE TIME

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY. FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER. PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN SURFACE WATERS RESIDENCE TIME DEPTH SPECIFIC ACTIVITIES

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. FALLOUT PACIFIC OCEAN OCEANS CRATER LAKE LAKES DILUTION MIXING COASTS ALASKA MONITORING

07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSCECS INTERCALIBRATION STATION. NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS CONCENTRATION DEPTH MIXING

PACIFIC PROVING GROUNDS

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

PANAMA

06361 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06362 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. SEA WATER NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT COLOMBIA GULF OF SAN MIGUEL ISOTOPE EXCHANGE SPECIFIC ACTIVITIES

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA SOIL DENSITY NUCLEAR EXCAVATION

PANAMA CANAL ZONE

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM. C-14 CARBON DIOXIDE NUCLEAR TESTING STRATOSPHERE PANAMA CANAL ZONE RADIOBIOLOGY

PARASITIC DISEASES (WORMS)

06276 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS

BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

PARTICLE ACCELERATORS

07076 TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION. HEALTH HAZARDS HAZARDS RADIOLOGICAL HAZARDS CONTAMINATION PARTICLE ACCELERATORS

PB-203

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

PB-204

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

PB-210

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

PEAS

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS. MUTATIONS RADIATION EFFECTS GENETIC EFFECTS PEAS TRITIATED WATER VEGETABLES

PELECYPODA

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

PENETRATION

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968. SHALE CANE RETENTION PENETRATION EXTRACTION PLOWSHARE PROGRAM SEDIMENTARY ROCK ROCK CONTAMINATION

PERCH LAKE

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIFERS CANADA PERCH LAKE RADIOACTIVE WASTES WASTES RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES GROUND WATER TRITIATED WATER

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE. PERCH LAKE CANADA LAKES TRITIATED WATER RADIOACTIVE WASTE DISPOSAL CONCENTRATION MIXING DISPERSION

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

PERCUTANEOUS ABSORPTION

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06764 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. TRITIUM OXIDE PERCUTANEOUS ABSORPTION MICE RATS PULMONARY ABSORPTION ABSORPTION MAN

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSASYVANIE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALP-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

PERIOD OF LAG

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

PERIODIC VARIATIONS

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90 FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE SEASONAL VARIATIONS PERIODIC VARIATIONS STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM ACTIVITY IN THE SOUTHWEST OF FRANCE). RAINWATER FRANCE GROUND WATER LAKES SEASONAL VARIATIONS PERIODIC VARIATIONS

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. SEASONAL VARIATIONS PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL) GROUND WATER AUSTRIA KARST MIXING MODELS SURFACE WATERS CONCENTRATION

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II SOIL AND EJECTA STUDIES. PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS SOIL MOISTURE PERIODIC VARIATIONS SEDAN SOILS EJECTA RAINFALL DEPTH FLOWSHARE PROGRAM NEVADA TEST SITE

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE). ATMOSPHERE (TERRESTRIAL) LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS PERIODIC VARIATIONS

06962 DER NATUERLICHE TRITIUMHAUSHALT DER ERDE UND DIE FRAGE SEINER ZEITLICHEN VARIATION. (THE NATURAL TRITIUM BALANCE OF THE EARTH AND THE QUESTION OF ITS CHRONOLOGICAL VARIATION).

ATMOSPHERE (TERRESTRIAL) DISTRIBUTION PERIODIC VARIATIONS WATER

06965 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS RAINWATER GERMANY CONCENTRATION RAINOUT WASHOUT ATMOSPHERE (TERRESTRIAL) PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL)

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSASYVANIE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN 1962 AND 1963. RAINOUT WASHOUT SEASONAL VARIATIONS PERIODIC VARIATIONS DISTRIBUTION UNITED STATES CONCENTRATION PRECIPITATION (METEOROLOGICAL) SAMPLING SAMPLING NETWORKS ALASKA PUERTO RICO

07018 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. DEUTERIUM CONCENTRATION ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PERIODIC VARIATIONS

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) CONCENTRATION PRECIPITATION (METEOROLOGICAL) FRANCE SEASONAL VARIATIONS PERIODIC VARIATIONS TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE STRATOSPHERE SR-90

07032 PREMIERS RESULTATS SUR LA TENUE EN TRITIUM DES EAUX DU LAC LEMAN. (PRIMARY RESULTS OF THE TRITIUM CONTENT OF THE WATER OF LAKE LEMAN.) CONCENTRATION LAKE GENEVA LAKES SEASONAL VARIATIONS PERIODIC VARIATIONS

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

PERITONEUM

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND GLYCINE BETWEEN MATERIAL AND FOETAL BODY FLUIDS IN RABBITS AND PIGS. C-14 UREA GLYCINE PERITONEUM PIGS RABBITS ALLANTOIC SAC TRITIATED WATER TRANSFER BODY FLUIDS TRITIATED WATER

PERMEABILITY

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. CONCENTRATION GROUND WATER MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE CLAYS SOILS PERMEABILITY

PERMEABILITY COEFFICIENT

06959 A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS FROG SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER. FROGS AQUATIC LIFE PERMEABILITY COEFFICIENT TRITIATED WATER ISOTOPE EFFECT SKIN TRANSFER

PERSONNEL MONITORING

06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. ATMOSPHERIC TRITIUM DOSIMETERS PHOTOGRAPHIC DOSIMETERS THERMOLUMINESCENT DOSIMETERS RADIOPHOTOLUMINESCENT DOSIMETERS MONITORING PERSONNEL MONITORING

PETROGRAPHY

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, ANCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT ANCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

PH

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION METABOLISM KIDNEY BEANS BEANS PH CROPS LEGUMES PLANTS VEGETABLES RETENTION LIGHT TRITIUM OXIDE TRITIUM GAS

PHENOLOGY

06266 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

PHILIPPINES

06995 DETERMINATION OF TOTAL BODY WATER IN HEALTHY FILIPINO SUBJECTS WITH THE USE OF TRITIATED WATER. BODY WATER TRITIATED WATER MAN PHILIPPINES

PHLOEM

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14. P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

PHOSPHORUS

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

PHOTOCHEMICAL LIFETIME

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

PHOTOGRAPHIC DOSIMETERS

06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. ATMOSPHERIC TRITIUM DOSIMETERS PHOTOGRAPHIC DOSIMETERS THERMOLUMINESCENT DOSIMETERS RADIOPHOTOLUMINESCENT DOSIMETERS MONITORING PERSONNEL MONITORING

PHOTOSYNTHESIS

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES SUGARS TRITIATED WATER

06830 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). TRITIATED WATER PHOTOSYNTHESIS LEAVES TRANSPIRATION TRANSFORMATIONS

MASS DISCRIMINATION LIQUID SCINTILLATION COUNTING

PHYSICAL ANALYSIS

04862 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

PHYSICAL PROPERTIES

06486 TRITIUM AND ITS COMPOUNDS. CHEMICAL REACTIONS CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS SAFETY RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS ANALYSIS PHYSICAL PROPERTIES

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS WATER EXCHANGE BARRIERS WATER BALANCE LUNGS SKIN BODY WATER GASTROINTESTINAL TRACT PHYSICAL PROPERTIES

06932 PROPRIETES PHYSIQUES MOLECULAIRES DES ISOTOPES DE L HYDROGENE ET DE LEURS COMBINAISONS ISOTOPIQUES; ETUDE BIBLIOGRAPHIQUE (MOLECULAR AND PHYSICAL PROPERTIES OF THE HYDROGEN ISOTOPES AND OF THEIR ISOTOPIC COMBINATIONS; BIBLIOGRAPHICAL COMPILATION). DEUTERIUM MOLECULAR PROPERTIES BIBLIOGRAPHY PHYSICAL PROPERTIES

06934 TRITIUM (H-3); A BIBLIOGRAPHY OF UNCLASSIFIED LITERATURE. DEUTERIUM BIBLIOGRAPHY NUCLEAR PROPERTIES PHYSICAL PROPERTIES TRACERS

PHYSICS

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS CHEMICAL REACTIONS RADIATION EFFECTS CELLS HYDROLOGY PHYSICS CHEMISTRY TRACERS AUTORADIOGRAPHY BIOLOGICAL SYSTEMS TRITIATED COMPOUNDS

PHYSIOLOGY

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. OXIDATION MAMMALS BACTERIA PLANTS MICROORGANISMS RATS RODENTS PHYSIOLOGY

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTES AVEC DE L EAU CONTAMINEE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

07114 HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM.
BIBLIOGRAPHY HEALTH HAZARDS
ENVIRONMENTAL MONITORING DOSIMETRY
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
RADIATION EXPOSURE PHYSIOLOGY

PHYTOPLANKTON

07163 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL
REPORT. RADIOACTIVITY SR-90 CONCENTRATION
Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT
NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING
LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS
BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON
CHEMICAL WASTES RADIOACTIVE WASTES

PIGS

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR
PROJECT SCHOONER. NUCLEAR EXPLOSIONS
DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS
FALLOUT COWS LIVESTOCK MAMMALS SAMPLING
INGESTION INHALATION PROJECT SCHOONER
RESIDENCE TIME NUCLEAR CRATERS FLOWSHARE PROGRAM
SOILS

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND
GLYCINE BETWEEN MATERIAL AND PORTAL BODY FLUIDS IN
RABBITS AND PIGS. C-14 UREA GLYCINE
PERITONEUM PIGS RABBITS ALLANTOIC SAC
TRITIATED WATER TRANSFER BODY FLUIDS
TRITIATED WATER

PLANKTON

07035 GENERAL SUMMARY OF PROGRESS (ON
OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS
SARGASSO SEA OCEANS SR-90 FALLOUT
ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION
DEPTH ACTIVATION ANALYSIS

PLANTS

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF
TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND.
C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION
NUCLEAR TESTING ATOLLS SEA WATER RAINWATER
SAMPLING WOOD ANIMALS LEAVES LITTER
PACIFIC PROVING GROUNDS

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL
COMPOSITION. SOILS CHEMICAL ANALYSIS
PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION
POTASSIUM CARBON CLAYS SILICATES WEATHERING
RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON
METALS PLANTS LEACHING NONMETALS

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY
GROWING CHLORELLA PYRENOIDOSA CELLS. METABOLISM
CHLORELLA ALGAE CHLOROPHYTA PLANTS DEUTERIUM
TRACERS

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL
FIELD STUDIES. TRITIATED WATER TRANSPIRATION
TREES PLANTS TRACERS ABSORPTION SOIL MOISTURE
DEPTH

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM
ON GROWTH OF SOYBEANS. C-14 SOYBEANS CROPS
LEGUMES PLANTS GROWTH RADIATION EFFECTS

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE
AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION
METABOLISM KIDNEY BEANS BEANS PH CROPS
LEGUMES PLANTS VEGETABLES RETENTION LIGHT
TRITIUM OXIDE TRITIUM GAS

06239 RESIDUAL TRITIUM AT SEDAN CRATER.
PRECIPITATION (METEOROLOGICAL) TRANSPIRATION
RADIATION EXPOSURE BODY WATER PLANTS
BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS
MAMMALS RODENTS SOILS THROWOUT
NUCLEAR EXPLOSIONS SEDAN RATS RODENTS
NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS
FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06246 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS
OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI.
RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY
TRITIATED COMPOUNDS BACTERIA MICROORGANISMS
PLANTS TRITIATED THYMIDINE TRITIATED URIDINE
TRITIATED HISTIDINE ESCHERICHIA

06250 THE OXIDATION OF MOLECULAR TRITIUM IN
MAMMALS. OXIDATION MAMMALS BACTERIA PLANTS
MICROORGANISMS RATS RODENTS PHYSIOLOGY

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1965 APPENDICES.
HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS

CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS
CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS
OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS
PELECYPODA MILK COLUMBIA RIVER RIVERS
TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64
ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58
CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS
PASTURES LIVESTOCK COWS K-40 GRASSLANDS
THYROID GLAND DOMESTIC ANIMALS ORGANS

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS
IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED
WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES
PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES
SUGARS TRITIATED WATER

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND
GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY
TRITIUM TRACING. TRACERS ROCK QUERCUS
FAGACEAE PLANTS TREES ROOTS GROUND WATER
ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER
HYDROGEOLOGY

06287 THE CURRENT TRITIUM CONTENTS OF NATURAL
WATERS. PLANTS SOVIET UNION WATER VAPOR GASES
PRECIPITATION (METEOROLOGICAL) LAKES RIVERS
GROUND WATER CONCENTRATION

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO
NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX,
PROGRESS REPORT. OPUNTIA CACTACEAE
FLOWERING PLANTS PLANTS PHENOLOGY
DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134
MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES
TRITIATED WATER BIOGEOCHEMICAL CYCLING

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM
OF THE BEAN PLANT USING THO, P-32, AND C-14.
P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS
VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06343 METABOLISM OF HYDROGEN ISOTOPES BY ALGAE.
METABOLISM ALGAE PLANTS DEUTERIUM

06344 COMPARATIVE METABOLISM OF PROTIUM,
DEUTERIUM AND TRITIUM IN THE BEAN PLANT.
METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS
VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE
PROTIUM OXIDE OXIDES DEUTERIUM

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL
METHODS. BIOLOGICAL EFFECTIVENESS P-32
RADIATION BETA RADIATION MICROBIOLOGY
LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS
DOSIMETRY GROWTH RADIOBIOLOGY

06368 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE
WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS
AND NICOTIANA. FLOWERING PLANTS WATER VAPOR
HELIANTHUS PLANTS NICOTIANA GASES TISSUES
MOVEMENT DISTRIBUTION TRITIATED WATER
TRANSPIRATION

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES
PRODUCED IN FLOWSHARE EVENTS. FLOWSHARE PROGRAM
SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS
EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS
OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA.
OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS
GROWTH TRITIUM OXIDE RADIATION EFFECTS

06393 THE EFFECT OF TRITIUM OXIDE ON SOME
SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA.
OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS
C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY
RADIATION EFFECTS

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO
VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE.
CHLORELLA ALGAE CHLOROPHYTA PLANTS HYDROGEN
GASES ISOTOPE EXCHANGE NONMETALS DEUTERIUM
METABOLISM

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS.
C-14 TREES PLANTS RAINWATER TROPOSPHERE
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
GROWTH RINGS CONCENTRATION

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL
SUSPENSIONS. CHEMICAL REACTIONS ENZYMES
BACTERIA PLANTS MICROORGANISMS
BIOLOGICAL FIXATION HYDROGENATION

06460 NATURAL CONCENTRATION OF KRYPTON-85,
CARBON-14, AND TRITIUM IN RECENT YEARS. C-14
KR-85 MAXIMUM PERMISSIBLE CONCENTRATION
ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES
PLANTS RAINWATER CONCENTRATION

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

06675 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION. TRITIATED WATER ROOT SYSTEM ROOTS PLANTS HELIANTHUS TRANSPIRATION UPTAKE FLOWERING PLANTS

06928 PROGRESS REPORT (ON THE USE OF TRITIATED THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN THE STUDY OF LATERAL ROOT INITIATION), 1965-1966. TRITIATED THYMIDINE TRITIATED WATER ROOTS SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES RADIATION EFFECTS

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

07046 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLOCATION MATHEMATICAL MODELS MODELS TRACERS

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

7 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM. COSMIC RADIATION METEOROLOGY WATER HYDROLOGY RADIOACTIVE AGE DETERMINATION WATER SUPPLY PLANTS TRACERS

PLASMA

06869 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). TRITIATED WATER DUCKS ABSORPTION BIRDS PLASMA

FLOWSHARE PROGRAM

TRITIATED METHANE TRITIATED ETHANE
TRITIATED PROPANE FLOWSHARE PROGRAM

06038 DISTRIBUTION OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS. NUCLEAR EXPLOSIONS NUCLEAR TESTING UNDERGROUND NUCLEAR TESTING SR-90 CO-60 SOILS TRANSPORT MOVEMENT FLOWSHARE PROGRAM

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION

ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO FLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF FLOWSHARE EVENTS FLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE FLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

06268 TRITIUM DISTRIBUTION IN GROUND WATER AROUND LARGE UNDERGROUND FUSION EXPLOSIONS. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS GROUND WATER FLOWSHARE PROGRAM DISTRIBUTION TRITIATED WATER

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II SOIL AND EJECTA STUDIES. PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS SOIL MOISTURE PERIODIC VARIATIONS SEDAN SOILS EJECTA RAINFALL DEPTH FLOWSHARE PROGRAM NEVADA TEST SITE

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER. LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE DISTRIBUTION RAINFALL DEPTH EJECTA PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION FLOWSHARE PROGRAM NEVADA TEST SITE

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN FLOWSHARE PROGRAM TRITIATED WATER

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 FLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY PROGRESS REPORT ON THE THEORETICAL EVALUATION OF CONSUMER PRODUCTS FROM PROJECT GASBUGGY. LIQUID HYDROCARBONS NATURAL GAS WATER GASES FLOWSHARE PROGRAM KR-85 PROJECT GASBUGGY

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN FLOWSHARE EVENTS. FLOWSHARE PROGRAM SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE FLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE FLOWSHARE PROGRAM

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS FLOWSHARE PROGRAM KR-85 XE-133 AR-37 C-14 VEGETATION PROJECT RULISON

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN FLOWSHARE PROGRAM NEVADA TEST SITE

06466 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS FLOWSHARE PROGRAM SOILS

06809 RADIOACTIVITY IN THE HYDROLOGIC ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT REPORT. WATER MOVEMENT RADIOACTIVITY CONCENTRATION SR-90 PROJECT RULISON HYDROLOGY FLOWSHARE PROGRAM

06621 RADIOACTIVITY IN WATER - PROJECT RULISON.
PROJECT RULISON FLOWSHARE PROGRAM
MESAVERT FORMATION RADIOACTIVITY
CONCENTRATION GUIDES GROUND WATER TRANSPORT

06650 GASBUGGY; GAS QUALITY INVESTIGATION
PROGRAM, STATUS REPORT. KR-85
TRITIATED HYDROGEN TRITIATED METHANE
TRITIATED ETHANE TRITIATED WATER CAVITY GAS
PROJECT GASBUGGY FLOWSHARE PROGRAM

06682 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH
31, 1968. FLOWSHARE PROGRAM RU-106 SB-125
CS-137 RADIATION TRITIATED WATER CANE
GREEN RIVER RIVERS GAMMA RADIATION
CONTAMINATION OIL SHALE

06699 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JULY 1 TO SEPTEMBER
30, 1968. TRITIATED WATER SHALE DISTRIBUTION
THERMAL ANALYSIS CANE FLOWSHARE PROGRAM
CONTAMINATION OIL SHALE

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER
30, 1969. FLOWSHARE PROGRAM TRITIATED WATER
SHALE DISTRIBUTION CANE THERMAL ANALYSIS
NATURAL GAS HYDROGEN CONTAMINATION

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY -
GAS QUALITY ANALYSIS AND EVALUATION PROGRAM.
NATURAL GAS CONTAMINATION FLOWSHARE PROGRAM
KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS
CHEMICAL ANALYSIS FLUSHING DILUTION
PROJECT GASBUGGY

06935 RESULTS FROM SEDAN POSTSHOT DRILLING.
SEDAN UNDERGROUND NUCLEAR EXPLOSIONS
NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION
RADIATION NEVADA TEST SITE NUCLEAR CRATERS
FLOWSHARE PROGRAM

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON
AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS
ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER SUBJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO
RATS LIVING IN A TRITIATED ENVIRONMENT.
KANGAROO RATS RATS RODENTS MAMMALS
RADIATION EXPOSURE BODY WATER TISSUES
SPECIFIC ACTIVITIES RADIATION DOSE
NUCLEAR CRATERS SEDAN FLOWSHARE PROGRAM
CONCENTRATION BIOLOGY DNA HABITATS

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF
WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS
IN THE RULISON PROJECT AREA, GARFIELD AND MESA
COUNTIES, COLORADO. PROJECT RULISON
FLOWSHARE PROGRAM MONITORING
RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS
RESERVOIRS SURFACE WATERS

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR
THE MILROW EVENT, OCTOBER 2, 1969. MILROW
CONCENTRATION FLOWSHARE PROGRAM ALUTIAN ISLANDS
ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING
AMCHITKA ISLAND WATER

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING
MAY 31, 1968. TRITIATED WATER FLOWSHARE PROGRAM
CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS
OIL LEACHING CONCENTRATION OIL SHALE

07055 ANNUAL PROGRESS REPORT FOR PERIOD ENDING
MAY 31, 1969. CANE FLOWSHARE PROGRAM OIL SHALE
CONTAMINATION RETORTED OIL

07073 CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE
RADIOLOGICAL SAFETY REPORT.
CARLSBAD ROLL-UP PROGRAM FLOWSHARE PROGRAM
CONTAMINATION SOIL CONTAMINATION DECONTAMINATION
NEW MEXICO RADIOACTIVE WASTES

07080 PURGING OF NUCLEAR CHIMNEYS. KR-85
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH
FLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER
31, 1969. CANE SHALE SEDIMENTARY ROCK ROCK
CONTAMINATION TRITIATED METHANE TRITIATED ETHANE
FLOWSHARE PROGRAM

07084 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH
31, 1969. CONTAMINATION SHALE ROCK
SEDIMENTARY ROCK CANE FLOWSHARE PROGRAM

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER
31, 1968. SHALE CANE RETENTION PENETRATION
EXTRACTION FLOWSHARE PROGRAM SEDIMENTARY ROCK
ROCK CONTAMINATION

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES
THROUGH GEOLOGIC MEDIA. TRITIATED WATER
FLOWSHARE PROGRAM MOVEMENT CONTAMINATION
GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS
TRANSPORT GASES DIFFUSION KR-85
DIFFUSION EQUATION EQUATIONS

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM
FOR PROJECT GASBUGGY. PROJECT GASBUGGY
FLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85
NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS
METHANE

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS
FROM PROJECT RULISON. PROJECT RULISON
FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS
ABSORBED DOSE DOSE ESTIMATION INHALATION
FOOD-CHAINS DNA FLARING RAINOUT WASHOUT
INGESTION RADIATION DOSE WHOLE BODY EXPOSURE
RADIATION EXPOSURE RADIOLOGICAL HAZARDS
GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT
EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION
PHASE). PROJECT RULISON FLOWSHARE PROGRAM
RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING
CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS
FOODS LIVESTOCK VEGETATION NATURAL GAS
CONTAMINATION

07116 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS
STIMULATION TECHNIQUES. NATURAL GAS
FLOWSHARE PROGRAM METHANE TRITIUM OXIDE
NEW MEXICO KR-85 AR-37 AR-39 XB-127 C-14
NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES
CONCENTRATION PROJECT GASBUGGY

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL
SAFETY REPORT GB-2R PHASE 1 PROGRAM. WATER
VEGETATION SOILS CONCENTRATION
ATMOSPHERE (TERRESTRIAL) PROJECT GASBUGGY
SAMPLING NETWORKS FLOWSHARE PROGRAM

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT
GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85
PROJECT GASBUGGY FLOWSHARE PROGRAM FLARING
SOILS ENVIRONMENTAL MONITORING
ATMOSPHERE (TERRESTRIAL) SNOW
PRECIPITATION (METEOROLOGICAL) VEGETATION
CONCENTRATION

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR
TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN
FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION
SOIL PROFILES VEGETABLES CORN RADISHES
POTATOES BEANS MELONS ONIONS
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

07136 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY
FLOWSHARE PROGRAM KR-85 CONCENTRATION
NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE
GASBUGGY EXPERIMENT. PROJECT GASBUGGY
FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON
CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN
NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL
PROJECT BRONCHO DISTRIBUTION
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
NATURAL GAS

07140 A PRELIMINARY ASSESSMENT OF THE
RADIOLOGICAL IMPLICATIONS OF COMMERCIAL
UTILIZATION OF NATURAL GAS FROM A NUCLEARLY
STIMULATED WELL. PROJECT GASBUGGY
FLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY
DOSE EQUIVALENTS RADIATION EXPOSURE KR-85
CONCENTRATION RADIOLOGICAL HAZARDS

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW
EVENT. MILROW RADIOACTIVITY GROUND WATER
CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION
ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND
TSUNAMIS BIOLOGICAL EFFECTS
UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK
WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES
NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY FLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. CANE TRITIATED HYDROGEN TRITIATED METHANE SHALE CONTAMINATION TRITIATED WATER NATURAL GAS FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

PLUTONIUM

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF INTERNAL EMITTERS. BODY MAN PLUTONIUM SR-90 CS-137 ZN-65 GA-72 P-32

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ENVIRONMENTAL RADIATION RADIATION MONITORING PLUTONIUM POLONIUM RIVERS GROUND WATER ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06824 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1964 AND 1964 SUMMARY. PLUTONIUM POLONIUM AIR WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06825 ENVIRONMENTAL MONITORING; SEMIANNUAL REPORT, JANUARY-JUNE, 1964. AIR PLUTONIUM POLONIUM WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06826 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1965. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06827 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1965 AND 1965 SUMMARY. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06832 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1966. POLONIUM PLUTONIUM MIAMI RIVER AIR WATER ENVIRONMENTAL MONITORING CONCENTRATION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 BU-152 BU-154 BU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION

INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

PM-147

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 BU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

POLAR REGIONS OPERATIONS

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

POLLUTION

06465 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1968. SURFACE WATERS CLINCH RIVER RIVERS POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06466 TRITIUM IN SURFACE WATER NETWORK, 1967. SURFACE WATERS RIVERS SAVANNAH RIVER POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06471 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1969. SAMPLING SURFACE WATERS CLINCH RIVER RIVERS WATER POLLUTION POLLUTION NUCLEAR FUEL PLANTS

06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR LA VAPEUR D'EAU TRITIÉE AUPRÈS DE LA PILE EL 3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR EL 3). AIR POLLUTION WATER VAPOR CONTAMINATION POLLUTION GASES EQUIPMENT NUCLEAR REACTORS TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

POLONIUM

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ENVIRONMENTAL RADIATION RADIATION MONITORING PLUTONIUM POLONIUM RIVERS GROUND WATER ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06824 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1964 AND 1964 SUMMARY. PLUTONIUM POLONIUM AIR WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06825 ENVIRONMENTAL MONITORING; SEMIANNUAL REPORT, JANUARY-JUNE, 1964. AIR PLUTONIUM POLONIUM WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06826 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1965. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06827 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1965 AND 1965 SUMMARY. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06832 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1966. POLONIUM PLUTONIUM MIAMI RIVER AIR WATER ENVIRONMENTAL MONITORING CONCENTRATION

POLYMER FILMS

06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. HEAVY WATER REACTORS TRITIUM PERMEABILITY POLYVINYL CHLORIDE POLYMER FILMS TRITIATED WATER RADIOLOGICAL HAZARDS NUCLEAR REACTORS

POLYMERS

06385 STUDYING THE DIFFUSION OF AQUEOUS VAPOURS IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM. RADIOACTIVE TRACERS TRACERS DIFFUSION WATER VAPOR GASES ORGANIC COMPOUNDS POLYMERS

06419 HYDROGEN EXCHANGE IN PROTEINS. PROTEINS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GASES POLYPEPTIDES ISOTOPE EXCHANGE HYDROGEN

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

POLYPEPTIDES

06419 HYDROGEN EXCHANGE IN PROTEINS. PROTEINS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GASES POLYPEPTIDES ISOTOPE EXCHANGE HYDROGEN

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. TRITIATED ACTINOMYCIN D ANTIBIOTICS OCCYTE NUCLEUS NUCLEUS NUCLEOLI DNA LABELING POLYPEPTIDES

POLYVINYL CHLORIDE

06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. HEAVY WATER REACTORS TRITIUM PERMEABILITY POLYVINYL CHLORIDE POLYMER FILMS TRITIATED WATER RADIOLOGICAL HAZARDS NUCLEAR REACTORS

POTASSIUM

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

POTATOES

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN PLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

PO-210

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. MONITORING ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210 RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER MIAMI RIVER

06820 MOUND LABORATORY, JANUARY-JUNE 1966. PO-210 PU-238 MONITORING RADIOACTIVE WASTES MIAMI RIVER

06883 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1967 AND 1967 SUMMARY. ENVIRONMENTS MIAMI RIVER RIVERS PU-238 PO-210 RADIOACTIVE WASTES

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07149 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1969. PU-238 PO-210 ENVIRONMENTAL MONITORING MOUND LABORATORY MIAMI RIVER RIVERS CONCENTRATION

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

PRECIPITATION (METEOROLOGICAL)

07029 SOME CONSIDERATIONS ON TRITIUM DATING AND THE ESTIMATES OF TRITIUM INPUT FUNCTION. RADIOACTIVE AGE DETERMINATION GROUND WATER HYDROLOGY CONCENTRATION PRECIPITATION (METEOROLOGICAL) RESIDENCE TIME

PRECIPITATION (METEOROLOGICAL)

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES EFFETUEES AU CENTRE D'ETUDES NUCLEAIRES DE GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE NUCLEAR RESEARCH CENTRE). HYDROLOGY SAMPLING FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL) KARST CONCENTRATION TRACERS HYDROGEOLOGY

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. SEASONAL VARIATIONS PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL) GROUND WATER AUSTRIA KARST MIXING MODELS SURFACE WATERS CONCENTRATION

06231 THE ATMOSPHERIC TRANSPORT OF TRITIUM. ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) TRANSPORT EQUATIONS TRITIATED WATER CIRCULATION

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE FLOWERING PLANTS PLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06244 STRATOSPHERIC TRITIUM (STRATOSPHERIC TRITIUM). PRECIPITATION (METEOROLOGICAL) RAINOUT GERMANY TROPOSPHERE MODELS STRATOSPHERE WASHOUT DEPOSITION

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06253 THE NATURAL DISTRIBUTION OF TRITIUM. COSMIC RADIATION SURFACE WATERS RADIATION DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES WINES PRODUCTION RATE PRECIPITATION (METEOROLOGICAL) T/H RATIO

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS 0-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06269 TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. PRECIPITATION (METEOROLOGICAL) SNOW ALPINE ALPS MOUNTAINS FIRN PROFILES

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II SOIL AND EJECTA STUDIES. PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS SOIL MOISTURE PERIODIC VARIATIONS SEDAN SOILS EJECTA RAINFALL DEPTH PLOWSHARE PROGRAM NEVADA TEST SITE

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER. LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE DISTRIBUTION RAINFALL DEPTH EJECTA PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION PLOWSHARE PROGRAM NEVADA TEST SITE

06287 THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS. PLANTS SOVIET UNION WATER VAPOR GASES PRECIPITATION (METEOROLOGICAL) LAKES RIVERS GROUND WATER CONCENTRATION

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, APRIL 1 TO JUNE 30, 1969. PRECIPITATION (METEOROLOGICAL) RIVERS GASES INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR CANADA TRITIATED WATER

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER. PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN SURFACE WATERS RESIDENCE TIME DEPTH SPECIFIC ACTIVITIES

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968. BIOLOGY AND HEALTH PHYSICS DIVISION. ATMOSPHERE (TERRESTRIAL) CANADA RIVERS GROWTH RINGS SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS DEPOSITION STRATOSPHERE TROPOSPHERE RETENTION AQUIFERS MOVEMENT

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS EQUIPMENT ABSORPTION SKIN PRECIPITATION (METEOROLOGICAL) MAN

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT LAKE TAHOE NEVADA TEST SITE CS-137 SR-90 CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES RAINFALL SURFACE WATERS

06397 TRITIUM IN NATURE. COSMIC RADIATION PRECIPITATION (METEOROLOGICAL) WATER LAKES OCEANS RIVERS SURFACE WATERS PRODUCTION RATE WINES SEA WATER

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM II. DISTRIBUTION COSMIC RADIATION SURFACE WATERS RADIATION RAINFALL PRECIPITATION (METEOROLOGICAL) TRITIATED WATER SEA WATER FRESH WATER WINES

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS RAINFALL PRECIPITATION (METEOROLOGICAL) AIRBORNE CONTAMINATION CHEMICAL COMPOSITION RADIOACTIVITY

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING ENVIRONMENTAL RADIATION RADIATION PRECIPITATION (METEOROLOGICAL) GROUND WATER SAMPLING METEOROLOGY C-14 SI-32

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

06711 BIOENVIRONMENTAL AND RADIOLOGICAL SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA SOIL DENSITY NUCLEAR EXCAVATION

06847 TRITIUM CONTENT OF ANTARCTIC SNOW. ANTARCTIC SNOW CONCENTRATION PRECIPITATION (METEOROLOGICAL)

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL TRITIATED WATER SOILS RAINFALL LEACHING SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DISTRIBUTION

06871 TRITIUM IN RAINWATER. COSMIC RADIATION RADIATION TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) RAINWATER PRODUCTION RATE HYDROLOGY

06872 TRITIUM CONTENT OF ANTARCTIC SNOW. ANTARCTIC SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION

06873 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER, GROUND WATER AND HOT SPRING. CITY WATER GROUND WATER HOT SPRINGS ELECTROLYTIC ENRICHMENT PRECIPITATION (METEOROLOGICAL) RAINFALL

06876 STOCKHOLM NATURAL TRITIUM MEASUREMENTS 1. DEUTERIUM OCEANS BALTIC SEA PRECIPITATION (METEOROLOGICAL) RAINWATER

06878 TRITIUM CONCENTRATION IN PRECIPITATION, 1967-1968. ENVIRONMENTS ALTITUDE SEASONAL VARIATIONS HYDROLOGICAL CYCLING PRECIPITATION (METEOROLOGICAL) RAINFALL CONCENTRATION

06885 TRITIUM IN SOUTHERN HEMISPHERE PRECIPITATION 1953-1964. TRITIATED WATER SOUTHERN HEMISPHERE FALLOUT TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06895 NATURAL TRITIUM. BACKGROUND RADIATION ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) SEA WATER ENVIRONMENTAL RADIATION RADIATION COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

06956 MEASUREMENT OF TRITIUM AT NATURAL LEVELS. CITY WATER RAINWATER WELL WATER NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) CONTAMINATION

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC TRITIUM FROM THERMONUCLEAR EXPLOSIONS). PRECIPITATION (METEOROLOGICAL) RAINFALL ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING FRANCE

06964 THE DETERMINATION OF TRITIUM IN NATURAL WATERS. RAINWATER SEA WATER SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING CANADA WASHOUT

06965 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS RAINWATER GERMANY CONCENTRATION RAINOUT WASHOUT ATMOSPHERE (TERRESTRIAL) PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL)

06966 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06976 TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA. ANTARCTIC FIRN PROFILES FALLOUT SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ACCUMULATION RATE

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE

MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN 1962 AND 1963. RAINOUT WASHOUT SEASONAL VARIATIONS PERIODIC VARIATIONS DISTRIBUTION UNITED STATES CONCENTRATION PRECIPITATION (METEOROLOGICAL) SAMPLING SAMPLING NETWORKS ALASKA PUERTO RICO

07005 ETUDE DE L ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) LAKES DISTRIBUTION FRANCE STRATIFICATION PRECIPITATION (METEOROLOGICAL) TEMPERATURE HYDROLOGY

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING 1966, 1967, AND 1968. RAINOUT FALLOUT PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING DISTRIBUTION RAINFALL SAMPLING SAMPLING NETWORKS

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) CONCENTRATION PRECIPITATION (METEOROLOGICAL) FRANCE SEASONAL VARIATIONS PERIODIC VARIATIONS TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE STRATOSPHERE SR-90

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) FALLOUT CANADA EUROPE ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RAINFALL PRECIPITATION (METEOROLOGICAL) CONCENTRATION

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

07077 ENVIRONMENTAL ISOTOPE DATA NO. L; WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1953-1963). DEUTERIUM O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE AIR TEMPERATURE GLOBAL NETWORK MONITORING

07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM AECL REACTOR STACK. SNOW PRECIPITATION (METEOROLOGICAL) TRITIUM OXIDE CANADA SPECIFIC ACTIVITIES DILUTION RATE FACTORS NUCLEAR REACTORS

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY PLOWSHARE PROGRAM FLARING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-161 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I PLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

07164 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 2, FOR THE PERIOD 1 NOVEMBER 1961--31 OCTOBER 1962. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE PRECIPITATION (METEOROLOGICAL) WATER CONCENTRATION METEORITES GERMANY

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA SURFACE WATERS PRECIPITATION (METEOROLOGICAL) HYDROLOGICAL CYCLING CONCENTRATION SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS ALASKA GREENLAND

07168 VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) SNOWPACK CZECHOSLOVAKIA SNOW RAINFALL WATER BALANCE

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA. GROUND WATER SOUTH AFRICA AQUIFERS PRECIPITATION (METEOROLOGICAL) RECHARGE HYDROLOGICAL CYCLING CONCENTRATION

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. O-18 ALPS CONCENTRATION SPRINGS SEASONAL VARIATIONS RECHARGE GROUND WATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

07182 ENVIRONMENTAL ISOTOPE DATA NO 2. WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1964-1965). DEUTERIUM O-18 CONCENTRATION MONITORING PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE

PRECIPITATION (METEOROLOGICAL)

06977 TRITIUM CONTENT OF RAIN IN TRONDHEIM. CONCENTRATION RAINWATER RESIDENCE TIME STRATOSPHERE SR-90 PRECIPITATION (METEOROLOGICAL) MONITORING NORWAY

PRECIPITATION (METEOROLOGICAL)

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES. ELECTROLYTIC ENRICHMENT ENRICHMENT CONCENTRATION SNOW PRECIPITATION (METEOROLOGICAL) THERMAL DIFFUSION RECOVERY ANTARCTIC

PRESSURE

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

PRODUCTION RATE

06248 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY

GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06253 THE NATURAL DISTRIBUTION OF TRITIUM. COSMIC RADIATION SURFACE WATERS RADIATION DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES WINES PRODUCTION RATE PRECIPITATION (METEOROLOGICAL) T/H RATIO

06353 DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE SOLAR ORIGIN OF NATURAL TRITIUM. DISTRIBUTION MATHEMATICAL ANALYSIS ANALYSIS PRODUCTION RATE NORTH AMERICA ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION

06397 TRITIUM IN NATURE. COSMIC RADIATION PRECIPITATION (METEOROLOGICAL) WATER LAKES OCEANS RIVERS SURFACE WATERS PRODUCTION RATE WINES SEA WATER

06871 TRITIUM IN RAINWATER. COSMIC RADIATION RADIATION TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) RAINWATER PRODUCTION RATE HYDROLOGY

06895 NATURAL TRITIUM. BACKGROUND RADIATION ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) SEA WATER ENVIRONMENTAL RADIATION RADIATION COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

06968 COSMIC-RAY PRODUCTION OF DEUTERIUM AND TRITIUM IN THE EARTH'S ATMOSPHERE. COSMIC RADIATION PRODUCTION RATE ATMOSPHERE (TERRESTRIAL) DEUTERIUM RADIATION

07047 A STUDY OF LOW ENERGY GALACTIC COSMIC RAYS FROM 1961 TO 1965. ATMOSPHERE (TERRESTRIAL) DEUTERIUM COSMIC RAY NEUTRONS PRODUCTION RATE COSMIC RADIATION

07154 THE PRODUCTION OF TRITONS AND C-14 IN THE TERRESTRIAL ATMOSPHERE BY SOLAR PROTONS. TRITON C-14 ATMOSPHERE (TERRESTRIAL) SOLAR PROTONS SOLAR FLARES PRODUCTION RATE

PROJECT BRONCHO

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY PLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

PROJECT BUGGY I

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I PLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

PROJECT GASBUGGY

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY PROGRESS REPORT ON THE THEORETICAL EVALUATION OF CONSUMER PRODUCTS FROM PROJECT GASBUGGY. LIQUID HYDROCARBONS NATURAL GAS WATER GASES PLOWSHARE PROGRAM KR-85 PROJECT GASBUGGY

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND CHEMICAL ANALYTICAL RESULTS. KR-85 AR-37 AR-39 OXIDES PROJECT GASBUGGY CONCENTRATION C-14 TRITIATED WATER

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. KR-85 TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE TRITIATED WATER CAVITY GAS PROJECT GASBUGGY FLOWSHARE PROGRAM

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY - GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. NATURAL GAS CONTAMINATION FLOWSHARE PROGRAM KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS FLUSHING DILUTION PROJECT GASBUGGY

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. PROJECT GASBUGGY FLOWSHARE PROGRAM C-14 AR-37 AR-39 KR-85 NUCLEAR CHIMNEYS CONCENTRATION NATURAL GAS METHANE

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS FLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL SAFETY REPORT GB-2R PHASE I PROGRAM. WATER VEGETATION SOILS CONCENTRATION ATMOSPHERE (TERRESTRIAL) PROJECT GASBUGGY SAMPLING NETWORKS FLOWSHARE PROGRAM

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY FLOWSHARE PROGRAM FLARING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

07138 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY FLOWSHARE PROGRAM KR-85 CONCENTRATION NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY FLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

07140 A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL. PROJECT GASBUGGY FLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY DOSE EQUIVALENTS RADIATION EXPOSURE KR-85 CONCENTRATION RADIOLOGICAL HAZARDS

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY FLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

PROJECT GNOME

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE FLOWSHARE PROGRAM

06887 PROJECT GNOME, ISOTOPE PROGRAM; FINAL REPORT. TRITIATED WATER PROJECT GNOME SALT MEDIUM FISSION PRODUCTS FRACTIONATION UNDERGROUND NUCLEAR EXPLOSIONS

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPE PRODUCTION TRITIATED WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

PROJECT KETCH

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF FLOWSHARE EVENTS FLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION

INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE FLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

07080 PURGING OF NUCLEAR CHIMNEYS. KR-85 UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH FLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

PROJECT RULISON

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO FLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS FLOWSHARE PROGRAM KR-85 XE-133 AR-37 C-14 VEGETATION PROJECT RULISON

06809 RADIOACTIVITY IN THE HYDROLOGIC ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT REPORT. WATER MOVEMENT RADIOACTIVITY CONCENTRATION SR-90 PROJECT RULISON HYDROLOGY FLOWSHARE PROGRAM

06821 RADIOACTIVITY IN WATER - PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM MESAS VERDE FORMATION RADIOACTIVITY CONCENTRATION GUIDES GROUND WATER TRANSPORT

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO. PROJECT RULISON FLOWSHARE PROGRAM MONITORING RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS RESERVOIRS SURFACE WATERS

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

PROJECT SCHOONER

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS FLOWSHARE PROGRAM SOILS

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

PROJECT SHOAL

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 FE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

PROPORTIONAL COUNTER

06947 MESSGERAET FUER TRITIUM (MEASUREMENT DEVICE FOR TRITIUM). PROPORTIONAL COUNTER COUNTERS RADIATION MEASUREMENT DOSIMETRY CONTAMINATION

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). DETECTION RADIATION WATER VAPOR METHANE ORGANIC GASES PROPORTIONAL COUNTER MONITORING BETA RADIATION HYDROGEN

06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). RADIATION PROPORTIONAL COUNTER COUNTERS MEASUREMENT SURFACE CONTAMINATION CONTAMINATION LIQUID SCINTILLATION COUNTING BETA RADIATION

PROTECTIVE CLOTHING

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

PROTECTIVE EQUIPMENT

06617 REVIEW OF SANDIA SYMPOSIUM ON INSTRUMENTATION, EXPERIENCE, AND PROBLEMS IN HEALTH PHYSICS TRITIUM CONTROL. HAZARDS INSTRUMENTS PROTECTIVE EQUIPMENT EQUIPMENT

PROTEINS

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

06419 HYDROGEN EXCHANGE IN PROTEINS. PROTEINS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GASES POLYPEPTIDES ISOTOPE EXCHANGE HYDROGEN

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

PROTIUM

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

PROTIUM OXIDE

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

PR-147

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS. LUMINESCERS RADIOACTIVE LUMINOUS PAINTS TRITIATED WATER RADIATION PR-147 RA-226 MONITORING MAN

PUERTO RICO

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE

RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN 1962 AND 1963. RAINOUT WASHOUT SEASONAL VARIATIONS PERIODIC VARIATIONS DISTRIBUTION UNITED STATES CONCENTRATION PRECIPITATION (METEOROLOGICAL) SAMPLING SAMPLING NETWORKS ALASKA PUERTO RICO

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST. TRITIATED WATER MOVEMENT SOILS RAINFORESTS LITTER ROOTS RESIDENCE TIME PUERTO RICO TROPICS

PULMONARY ABSORPTION

06784 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. TRITIUM OXIDE PERCUTANEOUS ABSORPTION MICE RATS PULMONARY ABSORPTION ABSORPTION MAN

PULSE

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

PURGING

07080 PURGING OF NUCLEAR CHIMNEYS. KR-85 UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH FLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

PU-210

07075 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING MOUND LABORATORY TRITIUM OXIDE MONITORING

PU-238

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. MONITORING ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210 RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER MIAMI RIVER

06820 MOUND LABORATORY, JANUARY-JUNE 1968.
PO-210 PU-238 MONITORING RADIOACTIVE WASTES
MIAMI RIVER

06883 ENVIRONMENTAL MONITORING REPORT,
JULY-DECEMBER 1967 AND 1967 SUMMARY.
ENVIRONMENTS MIAMI RIVER RIVERS PU-238 PO-210
RADIOACTIVE WASTES

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR
FUEL REPROCESSING INSTALLATION, 1965-1967.
ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS
STACK DISCHARGES MILK DEER FISH
RADIOACTIVE WASTES CONCENTRATION SILT WATER
RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95
CO-60 RU-106 CS-134 PU-238 PU-239 U-235
U-238 K-40 NEW YORK AIR

07065 HALF-LIVES OF H-3 AND PU-238. PU-238
HALF-LIFE RADIOACTIVE DECAY

07075 ENVIRONMENTAL MONITORING REPORT;
JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION
MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING
MOUND LABORATORY TRITIUM OXIDE MONITORING

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951.
TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE
HALF-LIFE BACTERIA FIXATION MICROORGANISMS
RETENTION MAN RATS RODENTS MAMMALS PLANTS
SPLEEN OXIDATION PU-238 DOGS
GASTROINTESTINAL TRACT

07149 ENVIRONMENTAL MONITORING REPORT;
JANUARY-JUNE 1969. PU-238 PO-210
ENVIRONMENTAL MONITORING MOUND LABORATORY
MIAMI RIVER RIVERS CONCENTRATION

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH
AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER
1951. QUARTERLY PROGRESS REPORT. PU-238
COLUMBIA RIVER RIVERS RADIATION EFFECTS
RADIOACTIVE WASTES WASTES FISH PLANTS
ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY
RATS TRANSLOCATION RODENTS RETENTION
TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07159 RADIATION SURVEILLANCE NETWORKS.
ENVIRONMENTAL MONITORING MILK DAIRY PRODUCTS
FOODS RADIOACTIVITY PU-238 MONITORING NETWORKS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES; PHASE III.
PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION
EXTERNAL DOSE INTERNAL DOSE INREM EXREM
RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS
ORGANS SKIN INGESTION NUCLEAR EXCAVATION
SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI)
SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO)
COMPUTER MODELS

PU-239

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY.
BALTIC SEA FOOD-CHAINS ACCUMULATION
RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA
FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137
PU-239

06470 CARBON-14, TRITIUM, AND PLUTONIUM-239 IN
MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968.
C-14 PU-239 MILK DAIRY PRODUCTS FOODS DIETS
CONCENTRATION

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR
FUEL REPROCESSING INSTALLATION, 1965-1967.
ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS
STACK DISCHARGES MILK DEER FISH
RADIOACTIVE WASTES CONCENTRATION SILT WATER
RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95
CO-60 RU-106 CS-134 PU-238 PU-239 U-235
U-238 K-40 NEW YORK AIR

07046 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND
THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN
DIETS WATER ORGANS MONITORING NETWORKS
AIRBORNE PARTICULATES

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR
INCIDENTS INVOLVING NUCLEAR WARHEADS.
NUCLEAR WARHEADS PU-239 ABSORPTION SKIN
GASTROINTESTINAL TRACT RETENTION INHALATION
TOXICITY INGESTION BONE RADIATION EXPOSURE
LUNGS LIVER RADIATION DOSE DECONTAMINATION
BIOLOGICAL EFFECTS CONTAMINATION

07146 ONE-DAY INTRODUCTION TO RADIATION
PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS

RADIATION EXPOSURE CONTAMINATION
ENVIRONMENTAL MONITORING RADIATION DOSE SR-90
DECONTAMINATION RADIOACTIVE WASTE DISPOSAL
WASTE DISPOSAL I-131 PU-239

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES; PHASE III.
PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION
EXTERNAL DOSE INTERNAL DOSE INREM EXREM
RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS
ORGANS SKIN INGESTION NUCLEAR EXCAVATION
SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI)
SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO)
COMPUTER MODELS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC
POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS
CONCENTRATION SURFACE WATERS
RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS
RADIATION DOSE RADIOLOGICAL HAZARDS
TRITIATED WATER MUTATIONS RADIATION EFFECTS
GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

PU-240

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES; PHASE III.
PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION
EXTERNAL DOSE INTERNAL DOSE INREM EXREM
RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS
ORGANS SKIN INGESTION NUCLEAR EXCAVATION
SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI)
SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO)
COMPUTER MODELS

PU-241

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES; PHASE III.
PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION
EXTERNAL DOSE INTERNAL DOSE INREM EXREM
RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS
ORGANS SKIN INGESTION NUCLEAR EXCAVATION
SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI)
SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO)
COMPUTER MODELS

P-32

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF
INTERNAL EMITTERS. BODY MAN PLUTONIUM SR-90
CS-137 ZN-65 GA-72 P-32

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE
ENVIRONMENT. C-14 BE-7 BR-10 NA-22 NA-24
SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39
HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL)
COSMIC RADIATION ENVIRONMENTS

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR
RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING
RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS
ADSORPTION NA-24 BR-82 P-32 HYDROLOGY
EQUATIONS TRITIATED WATER

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1965 APPENDICES.
HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS
CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS
CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS
OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS
PELECYPODA MILK COLUMBIA RIVER RIVERS
TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64
ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58
CO-60 CS-137 ZR-NB-95 CE-FR-144 DAIRY PRODUCTS
PASTURES LIVESTOCK COWS K-40 GRASSLANDS
THYROID GLAND DOMESTIC ANIMALS ORGANS

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM
OF THE BEAN PLANT USING THO, P-32, AND C-14.
P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS
VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN
FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER.
FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES
MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185
W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER
NUCLEAR CRATERS

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL
METHODS. BIOLOGICAL EFFECTIVENESS P-32
RADIATION BETA RADIATION MICROBIOLOGY
LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS
DOSIMETRY GROWTH RADIOBIOLOGY

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

06665 ON THE DIFFERENCE BETWEEN THE LETHAL EFFECTS OF H-3 AND P-32 IN BACTERIA. MORTALITY P-32 BACTERIA MICROORGANISMS DNA CELLS RADIATION EFFECTS MATHEMATICAL MODELS

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HQ-203 MAN FOOD-CHAINS DOSE ESTIMATION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07124 PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE. GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY TRACERS CELLULAR METABOLISM TOXICITY GENETIC EFFECTS RADIATION EFFECTS

07126 EFFET LÉTAL DE LA DESINTÉGRATION D'ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORÉS DANS UNE BACTÉRIE. (LÉTHAL EFFECT ON BACTERIUM OF DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32)). C-14 P-32 RADIOACTIVE DECAY RADIATION EFFECTS BACTERIA MICROORGANISMS GENETIC EFFECTS LETHALITY

07141 A NEW PROCEDURE OF LIQUID-SCINTILLATION COUNTING IN PLASTIC BAGS FOR H-3, C-14 AND P-32 IN BIOLOGICAL MATERIALS. LIQUID SCINTILLATION COUNTING C-14 P-32 RADIOASSAY BIOLOGICAL MATERIALS

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CONCENTRATION COLUMBIA RIVER HANFORD PROJECT P-32 ENVIRONMENTAL MONITORING CR-51 ZN-65 I-131 SR-90

07176 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 BU-152 BU-154 BU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

P-33

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-36 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

QUENCHING GAS

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

QUERCUS

06261 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROBIOLOGY

RABBITS

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE. ENZYMES CHEMICAL REACTIONS TAGGING TRITIATED WATER MUSCLE TISSUES RABBITS RODENTS

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND GLYCINE BETWEEN MATERIAL AND POSTAL BODY FLUIDS IN RABBITS AND PIGS. C-14 UREA GLYCINE PERITONEUM PIGS RABBITS ALLANTOIC SAC TRITIATED WATER TRANSFER BODY FLUIDS TRITIATED WATER

06812 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM AFTER INCORPORATION OF H-3-THYMIDINE. TRITIATED THYMIDINE RABBITS CORNEAL ENDOTHELIUM ENDOTHELIAL CELLS ENDOTHELIUM DNA SYNTHESIS RETENTION

06860 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. TRITIATED WATER RABBITS RATS TOTAL BODY WATER RADIATION SPECIFIC ACTIVITIES BODY WATER

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

RADIAL DISTRIBUTION

07016 HURRICANE TRITIUM III; EVAPORATION OF SEA WATER IN HURRICANE PAITH 1966. TRITIATED WATER HURRICANES DESTRUCTIVE FACTORS EVAPORATION SEA WATER RADIAL DISTRIBUTION RAINFALL DISTRIBUTION EQUATIONS METEOROLOGY

RADIAL FLOW

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

RADIATION

04147 RADIOACTIVITY AND HUMAN DIET.
RADIOACTIVITY MAN RADIATION EXPOSURE
CONTAMINATION MILK FOOD-CHAINS FALLOUT
VEGETATION ABSORPTION SOILS ANIMALS METABOLISM
PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH
FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM
ENVIRONMENTS FOODS CALCIUM

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT.
JULY-DECEMBER 1966. SAVANNAH RIVER PLANT
ENVIRONMENTAL RADIATION VEGETATION FRESH WATER
RADIATION ALGAE FISH MONITORING
GAMMA RADIATION FALLOUT NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103
RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140
ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65
MN-54 MAXIMUM PERMISSIBLE CONCENTRATION
ATMOSPHERE (TERRESTRIAL)

04942 FIELD AND LABORATORY TESTS OF
CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE
TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS
MEASUREMENT TRACERS RADIOACTIVE TRACERS
FLOW RATES EDTA ORGANIC COMPOUNDS CR-51
GAMMA RADIATION RADIATION SOILS BR-82
RHODAMINE-B DYES TRITIATED WATER MOVEMENT
GROUND WATER

06223 NEUBESTIMMUNG DER NATUERLICHEN IRDISCHEN
TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES
NATUERLICHEN TRITIUM (REDETERMINATION OF NATURAL
TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE
OF NATURAL TRITIUM). RADIOACTIVE DECAY
COSMIC RADIATION RADIATION RESIDENCE TIME
STRATOSPHERE TROPOSPHERE SNOW GREENLAND

06226 MONITORING FOR TRITIUM AT LOW LEVELS.
ABSORPTION BETA RADIATION RADIATION URINE
INSTRUMENTS BODY BURDEN MAN MONITORING
TRITIATED WATER

06245 CONTINENTAL WATER BALANCE, GROUND WATER
INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING
RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS
FROM COSMIC RAY AND MAN-MADE TRITIUM.
WATER BALANCE GROUND WATER RESIDENCE TIME
OCEANS MIXING RADIATION NORTH AMERICA RAINOUT
TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW
DEPOSITION HYDROLOGY COSMIC RADIATION
CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06246 THE PRODUCTION RATE OF NATURAL TRITIUM.
PRECIPITATION (METEOROLOGICAL) NORTH AMERICA
TROPOSPHERE STRATOSPHERE RESIDENCE TIME
COSMIC RADIATION RADIATION NUCLEAR TESTING
TRANSPORT WATER VAPOR GASES DEUTERIUM
PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06252 THE GEOCHEMISTRY OF TRITIUM.
PRECIPITATION (METEOROLOGICAL)
NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY
GROUND WATER SURFACE WATERS ATLANTIC OCEAN
METEOROLOGY RAINWATER OCEANOGRAPHY MIXING
RUNOFF CIRCULATION COSMIC RADIATION RADIATION
THERMOCLINE PRODUCTION RATE SEA WATER

06253 THE NATURAL DISTRIBUTION OF TRITIUM.
COSMIC RADIATION SURFACE WATERS RADIATION
DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES
WINES PRODUCTION RATE
PRECIPITATION (METEOROLOGICAL) T/H RATIO

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN
THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT
ENVIRONMENTAL RADIATION RADIATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
COOLING WATER RIVERS RADIATION EXPOSURE
COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES
WASTES

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL
ETHODES. BIOLOGICAL EFFECTIVENESS P-32
RADIATION BETA RADIATION MICROBIOLOGY
LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS
DOSIMETRY GROWTH RADIOBIOLOGY

06346 AN APPROXIMATION OF RADIATION DOSE
RESULTING FROM AN ACCIDENTAL RELEASE OF TRITIUM
GAS. GASES DOSE ESTIMATION RADIATION
ACCIDENTS TRITIUM GAS

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES
OF RADIOACTIVITY IN THE ENVIRONMENT.
RADIOACTIVITY I-131 SR-90 SR-89 CS-137
FALLOUT RADIATION RADIATION EFFECTS
RADIATION DOSE RADIATION EXPOSURE
ENVIRONMENTAL RADIATION

06391 THE DESTRUCTION OF RIBOFLAVIN, BIOTIN AND
FOLIC ACID IN VERY DILUTE AQUEOUS SOLUTION BY
TRITIUM BETA RADIATION. VITAMINS BETA RADIATION
RADIATION RADIOSENSITIVITY RADIATION EFFECTS

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED
TRITIUM II. DISTRIBUTION COSMIC RADIATION
SURFACE WATERS RADIATION RAINFALL
PRECIPITATION (METEOROLOGICAL) TRITIATED WATER
SEA WATER FRESH WATER WINES

06402 TRITIUM IN NATURE. SURFACE WATERS NORWAY
COSMIC RADIATION HE-3 RADIATION DEUTERIUM

06423 ACTIVITIES OF AECL IN THE FIELDS OF
BIOLOGY, HEALTH PHYSICS AND MEDICINE. MEDICINE
BIOLOGY DOSIMETRY ENVIRONMENTAL RADIATION
RADIATION SAFETY

06433 BIOLOGICAL APPLICATIONS OF TRITIUM.
RADIOACTIVE TRACERS TRACERS BETA RADIATION
RADIATION BIOLOGICAL SYSTEMS DEUTERIUM
METABOLISM BIOLOGICAL HALF-LIFE

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL
NUCLEUS AFTER INCORPORATION OF H-3- OR
C-14-LABELED THYMIDINE. CELL NUCLEUS
MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE
NUCLEIC ACIDS BETA RADIATION RADIATION DNA
DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE
SAVANNAH RIVER PLANT. MEDICINE SAFETY
CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION
RADIATION CLOTHING RADIOLOGICAL HAZARDS
DECONTAMINATION MONITORING

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON
RELEASE TO THE ENVIRONMENT. NUCLEAR REACTORS
ENVIRONMENTAL RADIATION SURFACE WATERS RADIATION
TRITIATED WATER NUCLEAR POWER INDUSTRY
GROUND WATER HYDROLOGICAL CYCLING

06462 COMPARISONS OF TRITIATED THYMIDINE,
TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN
INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE
NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION
CELLS DNA CHROMOSOMES TRITIATED WATER
BETA RADIATION MUTATIONS TRITIATED THYMIDINE
RADIATION EFFECTS HAMSTERS RODENTS

06596 ENVIRONMENTAL MONITORING REPORT,
JANUARY-JUNE 1967. MONITORING
ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210
RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER
MIAMI RIVER

06597 ENVIRONMENTAL MONITORING REPORT,
JULY-DECEMBER 1966 AND 1966 SUMMARY.
ENVIRONMENTAL RADIATION RADIATION MONITORING
PLUTONIUM POLONIUM RIVERS GROUND WATER
ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06608 EARTH SCIENCES WASTE DISPOSAL
INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER
CONTAMINATION RADIATION RADIATION HANFORD PROJECT
RADIOACTIVE WASTE DISPOSAL BETA RADIATION
RH-RU-106 WASTE DISPOSAL AQUIPERS SR-90 CS-137

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN
ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS
SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS
RAINFALL PRECIPITATION (METEOROLOGICAL)
AIRBORNE CONTAMINATION CHEMICAL COMPOSITION
RADIOACTIVITY

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN
THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING
ENVIRONMENTAL RADIATION RADIATION
PRECIPITATION (METEOROLOGICAL) GROUND WATER
SAMPLING METEOROLOGY C-14 SI-32

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND
AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS.
LUMINESCERS RADIOACTIVE LUMINOUS PAINTS
TRITIATED WATER RADIATION PR-147 RA-226
MONITORING MAN

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY
FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION
STUDIES. TRITIATED THYMIDINE X-IRRADIATION
RADIATION ORGANS RATS UPTAKE KIDNEY
RADIATION EFFECTS

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC
ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC
RESERVOIRS. AR-37 AR-39 C-14 RADIATION
RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS
ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION
KRYPTON XENON

06805 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, JULY-DECEMBER, 1964 AND ANNUAL SUMMARY, 1964. RADIATION WASTE WATER FISSION PRODUCTS ALPHA RADIATION BETA RADIATION ATMOSPHERE (TERRESTRIAL)

06822 RADIOACTIVITY IN NEW YORK SURFACE WATER, JANUARY-JUNE 1968. RADIATION NEW YORK SURFACE WATERS BETA RADIATION SR-89 SR-90 RADIOACTIVITY

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06834 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION. RADIOACTIVE WASTES RADIATION NATIONAL REACTOR TESTING STATION GROUND WATER RADIOACTIVE WASTE DISPOSAL

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18 WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

06843 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR TRITIATED WATER AND TRITIATED THYMIDINE. MAXIMUM PERMISSIBLE CONCENTRATION DOSE ESTIMATION TRITIATED WATER TRITIATED THYMIDINE BETA RADIATION RADIATION CONCENTRATION ABSORBED DOSE

06845 TRITIUM IN SURFACE WATERS OF THE NORTH PACIFIC. SURFACE WATERS OCEANS RADIATION RESIDENCE TIME MIXED LAYER NORTH PACIFIC OCEAN SPECIFIC ACTIVITIES

06849 CALCULATION OF LOW-ENERGY NEUTRON FLUX IN THE ATMOSPHERE BY THE S SUB N METHOD. C-14 NEUTRON FLUX SN METHOD COSMIC RAY NEUTRONS RADIATION ATMOSPHERE (TERRESTRIAL)

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90 RAINFALL FALLOUT RADIATION STRATOSPHERE ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT RESIDENCE TIME

06854 TRITIUM FALLOUT OVER NORTH AMERICA FROM THE SOVIET TESTS IN 1961. RADIATION ATMOSPHERIC NUCLEAR TESTING FALLOUT

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

06860 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. TRITIATED WATER RABBITS RATS TOTAL BODY WATER RADIATION SPECIFIC ACTIVITIES BODY WATER

06863 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E COLI)). TRITIATED WATER BACTERIOPHAGES RADIATION BETA RADIATION MICROORGANISMS HOSTS BACTERIA GROWTH RADIATION EFFECTS

06871 TRITIUM IN RAINWATER. COSMIC RADIATION RADIATION TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) RAINWATER PRODUCTION RATE HYDROLOGY

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE TRITIATED WATER MAMMALIAN CELLS CELLS CULTURE MEDIUM DOSE RATES RADIATION RADIATION EFFECTS GROWTH RATE

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN

BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

06881 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. FLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

06895 NATURAL TRITIUM. BACKGROUND RADIATION ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) SEA WATER ENVIRONMENTAL RADIATION RADIATION COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BB-7 CE-141 SAVANNAH RIVER PLANT

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS. FALLOUT C-14 ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY BETA RADIATION GAMMA RADIATION

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06935 RESULTS FROM SEDAN POSTSHOT DRILLING. SEDAN UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION RADIATION NEVADA TEST SITE NUCLEAR CRATERS FLOWSHARE PROGRAM

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM. PB-55 NI-59 RADIATION MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER RADIOLOGICAL HAZARDS CONTAMINATION NUCLEAR REACTORS

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE LATOSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION). TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER COSMIC RADIATION RADIATION REACTORS SOIL CONTAMINATION NUCLEAR EXPLOSIONS

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. TRITIUM OXIDE RADIATION HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS NUCLEAR REACTORS

06947 MESSGERÄT FÜR TRITIUM (MEASUREMENT DEVICE FOR TRITIUM). PROPORTIONAL COUNTER COUNTERS RADIATION MEASUREMENT DOSIMETRY CONTAMINATION

06948 KONTINUIERLICHE TRITIUM-ÜBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). DETECTION RADIATION WATER VAPOR METHANE ORGANIC GASES PROPORTIONAL COUNTER MONITORING BETA RADIATION HYDROGEN

06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). RADIATION PROPORTIONAL COUNTER COUNTERS MEASUREMENT SURFACE CONTAMINATION CONTAMINATION LIQUID SCINTILLATION COUNTING BETA RADIATION

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

06966 COSMIC-RAY PRODUCTION OF DEUTERIUM AND TRITIUM IN THE EARTH'S ATMOSPHERE. COSMIC RADIATION PRODUCTION RATE ATMOSPHERE (TERRESTRIAL) DEUTERIUM RADIATION

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

RADIATION DOSE

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING RADIATION DOSE DOSE ESTIMATION GROUND WATER FALLOUT ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RADIOACTIVE WASTES

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY. CO-60 ACCIDENTS ELIMINATION HALF-LIFE MAN BIOLOGICAL HALF-LIFE RADIATION EXPOSURE RADIATION DOSE

06209 METHODE DE DOSAGE DE L'EAU TRITIÉE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD ELIMINATION TRITIATED WATER RADIATION DOSE DOSE RATES MAN

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

06981 TRITIUM IN COMMUNITY WATER SUPPLIES, 1969. CONCENTRATION COMMUNITY WATER SUPPLIES RADIATION DOSE GROUND WATER SURFACE WATERS UNITED STATES SAMPLING

06983 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1970. CONCENTRATION SURFACE WATERS RADIATION DOSE SAMPLING UNITED STATES

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS FETUS EMBRYO

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJECTED WITH TRITIUM OXIDE. TRITIUM OXIDE IMMUNOLOGICAL REACTIVITY DOGS MAMMALS RADIATION EFFECTS RADIATION DOSE BIOLOGICAL EFFECTS AUTO-ALLERGIC PROCESSES

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE. TRITIUM OXIDE TRANSFER FETUS RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS RADIATION DOSE

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS. AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT THYROID GLAND BONE WHOLE BODY EXPOSURE NUCLEAR REACTORS

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. TRITIATED COMPOUNDS RADIATION EFFECTS GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA MICROORGANISMS BACTERIOPHAGES LETHALITY MUTATIONS ESCHERICHIA RADIATION DOSE

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

07132 ANALYSIS AND PUBLIC HEALTH ASPECTS OF ENVIRONMENTAL TRITIUM. RADIOASSAY LIQUID SCINTILLATION COUNTING RADIATION DOSE

07135 ZUR FRAGE DER PESTSETZUNG HOECHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER. (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER.) NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY GERMANY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL I-131 PU-239

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION

FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

07176 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WATERS RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

RADIATION EFFECTS

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS. C-14 SOYBEANS CROPS LEGUMES PLANTS GROWTH RADIATION EFFECTS

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINE DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE FLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06391 THE DESTRUCTION OF RIBOFLAVIN, BIOTIN AND FOLIC ACID IN VERY DILUTE AQUEOUS SOLUTION BY TRITIUM BETA RADIATION. VITAMINS BETA RADIATION RADIATION RADIOSENSITIVITY RADIATION EFFECTS

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS GROWTH TRITIUM OXIDE RADIATION EFFECTS

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY RADIATION EFFECTS

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS
CHEMICAL REACTIONS RADIATION EFFECTS CELLS
HYDROLOGY PHYSICS CHEMISTRY TRACERS
AUTORADIOGRAPHY BIOLOGICAL SYSTEMS
TRITIATED COMPOUNDS

06603 KILLING OF CULTURED MAMMALIAN CELLS BY
RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS
196 DEGREES C. THYMIDINE NUCLEIC ACIDS
ORGANIC COMPOUNDS CELLS MAMMALS
RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE
DNA RADIATION EFFECTS MORTALITY

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS
REPORT FOR PERIOD ENDING JULY 31, 1965.
RADIOACTIVE WASTE DISPOSAL
HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY
RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON
STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER
FOOD-CHAINS MAN INTERNAL EXPOSURE

06637 EFFECTS OF INTRACELLULAR IRRADIATION WITH
TRITIUM. CELLS RADIATION EFFECTS NUCLEIC ACIDS
ORGANIC COMPOUNDS MUTATIONS TOXICITY DNA

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY
FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION
STUDIES. TRITIATED THYMIDINE X-IRRADIATION
RADIATION ORGANS RATS UPTAKE KIDNEY.
RADIATION EFFECTS

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE
THYMIDINE. C-14 DNA MICE TUMORS
CARCINOGENIC EFFECTS RETENTION
TRITIATED THYMIDINE RADIATION EFFECTS

06789 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC
ORGANISMS FINAL REPORT JUNE 1, 1962 THROUGH JULY
31, 1964. TRITIUM OXIDE TOXIC EFFECTS
TRITIATED WATER BODY WATER RADIATION EFFECTS
AQUATIC LIFE

06792 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC
ORGANISMS, SUMMARY AND PROGRESS REPORT, JUNE 1,
1962 THROUGH JULY 31, 1963. TRITIUM OXIDE
TOXIC EFFECTS RADIATION EFFECTS AQUATIC LIFE

06801 STUDIES ON THE INCORPORATION OF TRITIATED
THYMIDINE IN DEOXYRIBONUCLEIC ACID IN MOUSE
TISSUES AND ON ITS RADIATION EFFECTS.
TRITIATED THYMIDINE MICE DNA LABELING
SPECIFIC ACTIVITIES RADIATION EFFECTS METABOLISM

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS
AFTER IRRADIATION. ORGANS MICE TRITIATED WATER
IRRADIATION SKIN WHOLE BODY EXPOSURE
RADIATION EFFECTS

06861 INTERNE KONTAMINATION MIT TRITIUM (INTERNAL
CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY
LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE
RADIATION EFFECTS RADIATION EXPOSURE

06863 VARIAZIONI DELLA CRESCITA PAGICA DOPO
TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA
COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE
GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST
BACTERIUM (E. COLI)). TRITIATED WATER
BACTERIOPHAGES RADIATION BETA RADIATION
MICROORGANISMS HOSTS BACTERIA GROWTH
RADIATION EFFECTS

06865 ON THE DIFFERENCE BETWEEN THE LETHAL
EFFECTS OF H-3 AND P-32 IN BACTERIA. MORTALITY
P-32 BACTERIA MICROORGANISMS DNA CELLS
RADIATION EFFECTS MATHEMATICAL MODELS

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER
OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE
TRITIATED WATER MAMMALIAN CELLS CELLS
CULTURE MEDIUM DOSE RATES RADIATION
RADIATION EFFECTS GROWTH RATE

06891 BIO-ORGANIC CHEMISTRY QUARTERLY REPORT;
SEPTEMBER-NOVEMBER 1961. DEUTERIUM MUTATIONS
DROSOPHILA GENETIC EFFECTS RADIATION EFFECTS
DIPTERA INSECTS

06928 PROGRESS REPORT (ON THE USE OF TRITIATED
THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN
THE STUDY OF LATERAL ROOT INITIATION), 1965-1966.
TRITIATED THYMIDINE TRITIATED WATER ROOTS
SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES
RADIATION EFFECTS

06993 THE EFFECT OF TRITIATED THYMIDINE ON
MORTALITY AND TUMOR INCIDENCE IN MICE.
TRITIATED THYMIDINE TRITIATED COMPOUNDS
RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA
MICE RODENTS MAMMALS 06994 DATING DESERT GROUND
WATER. C-14 RAINFALL

PRECIPITATION (METEOROLOGICAL)
RADIOACTIVE AGE DETERMINATION GROUND WATER
DESERTS SAUDI ARABIA

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS
EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS
RODENTS MAMMALS TRITIATED WATER RADIATION DOSE
MAMMALIAN DEVELOPMENT RADIATION EFFECTS
BIOLOGICAL EFFECTS ORGANS FETUS EMBRYO

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY
TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION
CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES
CELL DIVISION MITOSIS RADIATION EFFECTS
GENETIC EFFECTS DOSE RATES TRITIUM OXIDE
RADIATION DOSE

07009 MUTATIONS INDUCED IN THE MOUSE WITH
TRITIATED THYMIDINE. TRITIATED THYMIDINE
TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE
RODENTS RADIATION EFFECTS BIOLOGICAL EFFECTS
GENETIC EFFECTS MUTATIONS

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND
REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND
THE INTERPRETATION OF DATA ON CELL PROLIFERATION.
LABELING TRITIATED THYMIDINE CHROMOSOMES DNA
BIOLOGICAL EFFECTS RADIATION EFFECTS RETENTION
GENETIC EFFECTS

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL
REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE.
TRITIUM OXIDE IMMUNOLOGICAL REACTIVITY DOGS
MAMMALS RADIATION EFFECTS RADIATION DOSE
BIOLOGICAL EFFECTS AUTO-ALLERGIC PROCESSES

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE.
TRITIUM OXIDE RATS MICE MAMMALS RODENTS
BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY
LETHAL DOSE LIVER TOXICITY

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE
ELIMINATION OF TRITIUM OXIDE IN DOGS.
TRITIUM OXIDE RADIATION EFFECTS TOXICITY
BIOLOGICAL EFFECTS DOGS METABOLISM
BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE
EXCRETION

07066 THE CONDITION OF THE CARDIOVASCULAR,
RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED
WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS
RADIATION EFFECTS LIVER BLOOD PRESSURE
HYPOTONIA TOXICITY NERVOUS SYSTEM
RESPIRATION RATE PULSE METABOLISM
BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE
MORTALITY HALF-LIFE RADIATION DOSE

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO
FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE
OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND
POSTNATAL LIFE. TRITIUM OXIDE TRANSFER FETUS
RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS
RADIATION DOSE

07068 STATE OF AUTOINFECTION RESISTANCE IN MICE
TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE MICE
MAMMALS RODENTS RADIATION SICKNESS
RADIATION EFFECTS MICROORGANISMS

07088 THE EFFECTS OF TRITIUM DECAY ON DNA.
PROGRESS REPORT FOR THE PERIOD 1 JANUARY-31
DECEMBER 1967. RADIOACTIVE DECAY DNA
ESCHERICHIA BACTERIA MICROORGANISMS
RADIATION EFFECTS RADIOSENSITIVITY

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS
FROM PROJECT RULISON. PROJECT RULISON
PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS
ABSORBED DOSE DOSE ESTIMATION INHALATION
FOOD-CHAINS DNA PLATING RAINOUT WASHOUT
INGESTION RADIATION DOSE WHOLE BODY EXPOSURE
RADIATION EXPOSURE RADIOLOGICAL HAZARDS
GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS
REPORT, 1968-1969. Y-90 SR-90 CRASSOSTREA
OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS
CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

07124 PROBLEMS ASSOCIATED WITH THE USE OF
LABELLED MOLECULES IN BIOLOGY AND MEDICINE.
GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY
TRACERS CELLULAR METABOLISM TOXICITY
GENETIC EFFECTS RADIATION EFFECTS

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM
DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED
INTO BACTERIA AND BACTERIOPHAGES.
TRITIATED COMPOUNDS RADIATION EFFECTS
GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA
MICROORGANISMS BACTERIOPHAGES LETHALITY
MUTATIONS ESCHERICHIA RADIATION DOSE

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

07128 EFFET LETAL DE LA DESINTEGRATION D ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORES DANS UNE BACTERIE. (LETHAL EFFECT ON BACTERIUM OF DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32). C-14 P-32 RADIOACTIVE DECAY RADIATION EFFECTS BACTERIA MICROORGANISMS GENETIC EFFECTS LETHALITY

07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS. MUTATIONS RADIATION EFFECTS GENETIC EFFECTS PEAS TRITIATED WATER VEGETABLES

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WATERS RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STROPOSPHERE CONTAMINATION

RADIATION EXPOSURE

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS AND THEIR BIOLOGICAL SIGNIFICANCE. CONTAMINATION RADIOACTIVITY FALLOUT DOSE RATES SAFETY MAN RADIATION EXPOSURE FRESH WATER

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY. CO-60 ACCIDENTS ELIMINATION HALF-LIFE MAN BIOLOGICAL HALF-LIFE RADIATION EXPOSURE RADIATION DOSE

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROUGHOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06256 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT ENVIRONMENTAL RADIATION RADIATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL COOLING WATER RIVERS RADIATION EXPOSURE COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES WASTES

06264 ESTIMATION OF WHOLE BODY DOSE (REM) FROM TRITIUM IN BODY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE BODY BURDEN URINE BODY WATER DOSE ESTIMATION

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALF-LIFE HALF-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN FLOWSHARE PROGRAM TRITIATED WATER

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. BODY BURDEN SAFETY RADIATION EXPOSURE DOSE RATES WASHOUT TRITIATED WATER KR-85

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. TISSUES GASES RATS MAMMALS RODENTS WHOLE BODY EXPOSURE RADIATION EXPOSURE TRITIUM GAS TRITIUM OXIDE DISTRIBUTION RETENTION

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS TRITIUM OXIDE RETENTION

06363 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE RADIATION EXPOSURE FOODS KR-85 RADIOACTIVE TRACERS TRACERS ENGINEERING CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE PLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06418 PERFORMANCE OF AN AUTOMATIC ANALYSER FOR TRITIUM IN URINE. SCINTILLATION COUNTERS RADIATION EXPOSURE WHOLE BODY EXPOSURE EQUIPMENT INSTRUMENTS URINE

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-180 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06469 HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM OXIDE. MAXIMUM PERMISSIBLE CONCENTRATION RADIATION EXPOSURE OXIDES BIOLOGICAL EFFECTIVENESS TRITIUM OXIDE RADIOLOGICAL HAZARDS

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING URINE TRITIATED WATER SAFETY TRITIATED WATER VAPOR CHALK RIVER

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06599 TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER. OXIDES HAZARDS WHOLE BODY EXPOSURE ABSORPTION RADIATION EXPOSURE MAXIMUM PERMISSIBLE CONCENTRATION SAFETY TRITIUM OXIDE EXCRETION

06609 ANALYSIS OF EXTERNAL EXPOSURES IN 1966. RADIATION EXPOSURE WHOLE BODY EXPOSURE GAMMA RADIATION DOSIMETRY BETA RADIATION

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06628 REMOTE TRITIUM AIR MONITORING SYSTEM. WHOLE BODY EXPOSURE RADIATION EXPOSURE SAVANNAH RIVER PLANT HAZARDS ABSORPTION CLOTHING TRITIUM OXIDE ENVIRONMENTAL MONITORING

06661 INTERNE KONTAMINATION MIT TRITIUM (INTERNAL CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE RADIATION EFFECTS RADIATION EXPOSURE

06953 TRITIUM ET VAPEUR D'EAU TRITIÉE- DURÉE LIMITÉE D'EXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELÉE (TRITIUM AND TRITIATED WATER VAPOR- TIME LIMITS FOR ACCIDENTAL EXPOSURE IN STABLE OR RENEWED ATMOSPHERE). TRITIATED WATER VAPOR RESPIRATORY INTAKE OXIDATION VENTILATION RADIATION EXPOSURE

06982 TRITIUM IN SURFACE WATER NETWORK, JULY-DECEMBER 1969. SURFACE WATERS RADIATION EXPOSURE CONCENTRATION SAMPLING UNITED STATES

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM METHOD OF MEASURING TOTAL BODY WATER. BODY WATER RADIOLOGICAL HAZARDS TRITIATED WATER RADIOBIOLOGY RADIATION EXPOSURE WHOLE BODY EXPOSURE

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HQ-203 MAN FOOD-CHAINS DOSE ESTIMATION

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION TISSUES BODY WATER MAN RADIATION EXPOSURE

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07140 A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL. PROJECT GASBUGGY PLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY DOSE EQUIVALENTS RADIATION EXPOSURE KR-85 CONCENTRATION RADIOLOGICAL HAZARDS

07144 REPAIRING A LARGE TRITIUM-CONTAMINATED SYSTEM. DRY BOX SYSTEM REPAIR GAS PURIFICATION SYSTEM CONTAMINATION RADIATION EXPOSURE MAN

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL I-131 PU-239

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIÉE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

07176 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07179 A STATISTICAL SUMMARY OF UNITED STATES
ATOMIC ENERGY COMMISSION CONTRACTORS' INTERNAL
EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM
URANIUM IODINE PO-210 SR-90
INTERNAL DEPOSITION INTERNAL EXPOSURE
BODY BURDEN INHALATION STATISTICAL ANALYSIS
BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

07180 ASSESSMENT OF TRITIUM IN MAN. MAN
RADIATION EXPOSURE OCCUPATIONAL EXPOSURE
ASSIMILATION INHALATION URINE ANALYSIS
ELIMINATION BIOLOGICAL HALF-LIFE
MATHEMATICAL MODELS MATHEMATICAL ANALYSIS
METABOLISM HALF-LIFE CONCENTRATION BODY WATER
RADIATION DOSE MODELS

07184 RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER
REACTORS AND THE POPULATION. RADIATION EXPOSURE
NUCLEAR POWER INDUSTRY NUCLEAR REACTORS
NUCLEAR FUEL PLANTS DOSE ESTIMATION
RADIOACTIVE WASTES MAN

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC
POWER. NUCLEAR POWER INDUSTRY
BIOLOGICAL HALF-LIFE RADIATION EFFECTS
ENRICHMENT MOVEMENT FOOD-CHAINS
RADIOACTIVE WASTE DISPOSAL
ENVIRONMENTAL MONITORING NUCLEAR REACTORS
RADIATION EXPOSURE T/H RATIO
ATMOSPHERE (TERRESTRIAL) STROPOSPHERE
CONTAMINATION

RADIATION SICKNESS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE
RODENTS RABBITS RATS MICE MORTALITY
BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS
07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE
IN THE CASE OF INTRAPERITONEAL INJECTION.
TRITIUM OXIDE RODENTS RATS MICE RABBITS
BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE
RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY
TISSUES RADIATION DOSE MAMMALS

07068 STATE OF AUTOINFECTION RESISTANCE IN MICE
TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE MICE
MAMMALS RODENTS RADIATION SICKNESS
RADIATION EFFECTS MICROORGANISMS

RADIOACTIVE AGE DETERMINATION

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES
OF GROUNDWATER. MEASUREMENT C-14
RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY
RADIOACTIVE AGE DETERMINATION AGE GROUND WATER
AQUIFERS

06210 DATING OF GROUNDWATER WITH TRITIUM AND
C-14. RADIOACTIVE AGE DETERMINATION C-14
GROUND WATER SOIL MOISTURE MODELS

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN
SOIL WATER. FRACTIONATION SOIL MOISTURE
DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION
TRACERS GROUND WATER SURFACE WATERS CLAYS
SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE
ISOTOPE EXCHANGE MONTMORILLONITE

06265 GROUNDWATER STUDIES IN THE SABI VALLEY,
RHODESIA, USING NATURAL TRITIUM MEASUREMENTS.
GROUND WATER RADIOACTIVE AGE DETERMINATION
TRACERS MOVEMENT SABI VALLEY RHODESIA

06462 RADIOCARBON DATING.
RADIOACTIVE AGE DETERMINATION C-14 DISTRIBUTION

06469 RADIOCARBON AND TRITIUM DATING.
RADIOACTIVE AGE DETERMINATION GROWTH RINGS
RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS
ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY
HYDROLOGY ANALYSIS OCEANS GEOLOGY
SURFACE WATERS

06630 REPORT ON THE WORK OF THE INSTITUTE OF
NUCLEAR SCIENCES, ANNUAL REPORT NO 4, MARCH L,
1961 - FEBRUARY 28, 1962.
RADIOACTIVE AGE DETERMINATION EQUIPMENT C-14
FALLOUT

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER
ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL
ALTITUDES. TRITIATED WATER ICE
SEASONAL VARIATIONS SNOW CONCENTRATION
DEPOSITION MT. EVEREST
RADIOACTIVE AGE DETERMINATION

06993 THE EFFECT OF TRITIATED THYMIDINE ON
MORTALITY AND TUMOR INCIDENCE IN MICE.
TRITIATED THYMIDINE TRITIATED COMPOUNDS

RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA
MICE RODENTS MAMMALS 06994 DATING DESERT GROUND
WATER. C-14 RAINFALL
PRECIPITATION (METEOROLOGICAL)
RADIOACTIVE AGE DETERMINATION GROUND WATER
DESERTS SAUDI ARABIA

07029 SOME CONSIDERATIONS ON TRITIUM DATING AND
THE ESTIMATES OF TRITIUM INPUT FUNCTION.
RADIOACTIVE AGE DETERMINATION GROUND WATER
HYDROLOGY CONCENTRATION
PRECIPITATION (METEOROLOGICAL) RESIDENCE TIME

7 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM.
COSMIC RADIATION METEOROLOGY WATER HYDROLOGY
RADIOACTIVE AGE DETERMINATION WATER SUPPLY
PLANTS TRACERS

RADIOACTIVE DECAY

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES
OF GROUNDWATER. MEASUREMENT C-14
RADIOACTIVE DECAY ISOTOPE EXCHANGE HYDROLOGY
RADIOACTIVE AGE DETERMINATION AGE GROUND WATER
AQUIFERS

06223 NEUBESTIMUNG DER NATUERLICHEN IRDISCHEN
TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES
NATUERLICHEN TRITIUM (REDETERMINATION OF NATURAL
TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE
OF NATURAL TRITIUM). RADIOACTIVE DECAY
COSMIC RADIATION RADIATION RESIDENCE TIME
STRATOSPHERE TROPOSPHERE SNOW GREENLAND

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS
OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI
RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY
TRITIATED COMPOUNDS BACTERIA MICROORGANISMS
PLANTS TRITIATED THYMIDINE TRITIATED URIDINE
TRITIATED HISTIDINE ESCHERICHIA

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES
THROUGH SEDIMENTS UNDERLYING THE HANFORD
RESERVATION. HANFORD PROJECT WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION
SR-90 RU-106 CONTAMINATION GROUND WATER TC-99
RADIOACTIVE DECAY CS-137 LEACHING

06603 KILLING OF CULTURED MAMMALIAN CELLS BY
RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS
196 DEGREES C. THYMIDINE NUCLEIC ACIDS
ORGANIC COMPOUNDS CELLS MAMMALS
RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE
DNA RADIATION EFFECTS MORTALITY

06667 TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS
OF THE U S GEOLOGICAL SURVEY RESEARCH PROGRAM.
AQUIFERS. GROUND WATER RADIOACTIVE DECAY
HALF-LIFE HYDROLOGICAL CYCLING HYDROLOGY
FALLOUT

06940 SURVEY OF AVAILABLE DATA OF TRITIUM.
TRITIATED WATER RADIATION HALF-LIFE ENERGY
BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS
MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT
IONIZATION ENERGY DISSOCIATION ENERGY
RADIOACTIVE DECAY

07065 HALF-LIVES OF H-3 AND PU-238. PU-238
HALF-LIFE RADIOACTIVE DECAY

07088 THE EFFECTS OF TRITIUM DECAY ON DNA.
PROGRESS REPORT FOR THE PERIOD 1 JANUARY-31
DECEMBER 1967. RADIOACTIVE DECAY DNA
ESCHERICHIA BACTERIA MICROORGANISMS
RADIATION EFFECTS RADIOSENSITIVITY

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM
DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED
INTO BACTERIA AND BACTERIOPHAGES.
TRITIATED COMPOUNDS RADIATION EFFECTS
GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA
MICROORGANISMS BACTERIOPHAGES LETHALITY
MUTATIONS ESCHERICHIA RADIATION DOSE

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE
SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE
TRITIATED COMPOUNDS. THYMIDINE METABOLISM CELLS
MAMMALS RADIATION EFFECTS GENETIC EFFECTS
LETHALITY RADIOACTIVE DECAY RADIATION DOSE
DNA SYNTHESIS

07128 EFFET LETHAL DE LA DESINTEGRATION D ATOMES
RADIOACTIFS (H-3, C-14, P-32) INCORPORES DANS UNE
BACTERIE. (LETHAL EFFECT ON BACTERIUM OF DECAY OF
INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32).
C-14 P-32 RADIOACTIVE DECAY RADIATION EFFECTS
BACTERIA MICROORGANISMS GENETIC EFFECTS
LETHALITY

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

RADIOACTIVE LUMINOUS PAINTS

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS. LUMINESCERS RADIOACTIVE LUMINOUS PAINTS TRITIATED WATER RADIATION PR-147 RA-226 MONITORING MAN

RADIOACTIVE TRACERS

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS EQUIPMENT ABSORPTION SKIN PRECIPITATION (METEOROLOGICAL) MAN

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE RADIATION EXPOSURE FOODS KR-85 RADIOACTIVE TRACERS TRACERS RIVERS ENGINEERING CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06385 STUDYING THE DIFFUSION OF AQUEOUS VAPOURS IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM. RADIOACTIVE TRACERS TRACERS DIFFUSION WATER VAPOR GASES ORGANIC COMPOUNDS POLYMERS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06433 BIOLOGICAL APPLICATIONS OF TRITIUM. RADIOACTIVE TRACERS TRACERS BETA RADIATION RADIATION BIOLOGICAL SYSTEMS DEUTERIUM METABOLISM BIOLOGICAL HALF-LIFE

06486 TRITIUM AND ITS COMPOUNDS. CHEMICAL REACTIONS CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS SAFETY RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS ANALYSIS PHYSICAL PROPERTIES

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS CHEMICAL REACTIONS RADIATION EFFECTS CELLS HYDROLOGY PHYSICS CHEMISTRY TRACERS AUTORADIOGRAPHY BIOLOGICAL SYSTEMS TRITIATED COMPOUNDS

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION

TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06586 TRACER MEASUREMENT OF STREAM REGENERATION. RADIOACTIVE TRACERS EXCHANGE REACTIONS REGENERATION DYES KR-85 JACKSON RIVER

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA. TRANSPORT RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIOACTIVE TRACERS TRACERS SOILS TRITIATED WATER MOVEMENT GROUND WATER

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. CONTAMINATION RADIOACTIVE TRACERS TRACERS STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS TRITIATED WATER ATMOSPHERE (TERRESTRIAL) DISTILLATION SCINTILLATION COUNTING

06632 SOME FACTORS INFLUENCING INTERPRETATION OF STUDIES OF BODY WATER AND ELECTROLYTES WITH ISOTOPIC TRACERS. TRACERS RADIOACTIVE TRACERS BODY WATER BIOLOGICAL EFFECTIVENESS DEUTERIUM CHLORIDES

06667 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06697 ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA). RADIOACTIVE TRACERS LAKE GENEVA LAKES TRACERS MIXING

07056 THE PERCH LAKE EVAPORATION STUDY. RADIOACTIVE TRACERS TRACERS MOVEMENT HYDROLOGICAL CYCLING TRITIATED WATER VAPOR EVAPORATION TRITIATED WATER GROUND WATER WATER SURFACE WATERS

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. TRITIATED WATER VAPOR RADIOACTIVE TRACERS TRACERS NUCLEAR FUEL PLANTS STACK DISPERSION RADIOACTIVE WASTES EFFLUENT AIR LIQUID SCINTILLATION COUNTING

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) TRACERS LAKES MIXING ESTUARIES RADIOACTIVE TRACERS LAKE GENEVA FRANCE RESIDENCE TIME

RADIOACTIVE WASTE

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PE-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

RADIOACTIVE WASTE DISPOSAL

05051 SOME SECOND THOUGHTS ON TRITIUM CONTAMINATION. CONTAMINATION RADIOACTIVITY GASES DIFFUSION WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL TRITIUM GAS RADIOLOGICAL HAZARDS

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT ENVIRONMENTAL RADIATION RADIATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL COOLING WATER RIVERS RADIATION EXPOSURE COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES WASTES

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES WASTE DISPOSAL WASTES MOVEMENT GROUND WATER TRACERS STREAMS SAVANNAH RIVER PLANT

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS CANADA PERCH LAKE RADIOACTIVE WASTES WASTES RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES GROUND WATER TRITIATED WATER

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE FLOWSHARE PROGRAM

06399 GROUND WATER CONTAMINATION PREDICTIONS. CONTAMINATION SAFETY NUCLEAR EXPLOSIONS EXPLOSIONS FISSION PRODUCTS RADIOACTIVE WASTE DISPOSAL GROUND WATER CONCENTRATION

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE. PERCH LAKE CANADA LAKES TRITIATED WATER RADIOACTIVE WASTE DISPOSAL CONCENTRATION MIXING DISPERSION

06461 FISSION PRODUCT TRITIUM IN SEPARATIONS WASTES AND IN THE GROUND WATER. CONTAMINATION GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL COLUMBIA RIVER

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION SR-90 RU-106 CONTAMINATION GROUND WATER TC-99 RADIOACTIVE DECAY CS-137 LEACHING

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA. TRANSPORT RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIOACTIVE TRACERS TRACERS SOILS TRITIATED WATER MOVEMENT GROUND WATER

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER CONTAMINATION RADIATION HANFORD PROJECT RADIOACTIVE WASTE DISPOSAL BETA RADIATION RH-RU-106 WASTE DISPOSAL AQUIPERS SR-90 CS-137

06613 DIFFUSION OF TRITIATED MOISTURE FROM A STREAM. STREAMS ATMOSPHERE (TERRESTRIAL) MOISTURE DIFFUSION RADIOACTIVE WASTE DISPOSAL TRITIATED WATER VAPOR RADIOACTIVE WASTES

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW AT THE SAVANNAH RIVER PLANT. GROUND WATER SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT TRACERS TRITIATED WATER MOVEMENT RADIOACTIVE WASTES

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL CHROMIUM GROUND WATER SURFACE WATERS AQUIPERS RADIOACTIVE WASTES TRACERS

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL SR-90 GROUND WATER SURFACE WATERS AQUIPERS RADIOACTIVE WASTES

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS. RADIOACTIVE WASTE DISPOSAL GLASS LEACHING SR-90 CS-137 SOILS SAND GROUND WATER

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06787 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTES ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL

06794 FISSION PRODUCT TRITIUM IN FUEL REPROCESSING WASTES. URANIUM FISSION RADIOLOGICAL HAZARDS RADIOACTIVE WASTES TRITIUM OXIDE DECONTAMINATION CONCENTRATION TRITIUM GAS RADIOACTIVE WASTE DISPOSAL FISSION PRODUCTS

06797 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. NATIONAL REACTOR TESTING STATION LITHOSPHERE ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06798 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06799 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06807 MANAGEMENT OF FISSION PRODUCT TRITIUM IN FUEL PROCESSING WASTES. RECYCLING DECONTAMINATION SURFACE WATERS GROUND WATER NUCLEAR FUEL PLANTS RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06813 WASTE DISPOSAL. DILUTION DISTILLATION RECYCLING FUEL PROCESSING RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06834 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION. RADIOACTIVE WASTES RADIATION NATIONAL REACTOR TESTING STATION GROUND WATER RADIOACTIVE WASTE DISPOSAL

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CE-141 CE-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06861 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1966; ANNUAL SUMMARY, 1966. RIVERS WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41 ILLINOIS RIVER DES PLAINES RIVER ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07089 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY- JUNE, 1966. GROUND WATER CONTAMINATION CONCENTRATION MAXIMUM PERMISSIBLE CONCENTRATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL AQUIPERS HANFORD PROJECT RU-106

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES. CONTAMINATION NUCLEAR REACTORS REACTORS NUCLEAR POWER NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONCENTRATION LAKES

07135 ZUR FRAGE DER FESTSETZUNG HOECHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER. (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER.) NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY GERMANY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL 1-131 PU-239

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1983. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

07181 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING WASTE. RADIOACTIVE WASTES NUCLEAR FUEL PLANTS MOVEMENT SOILS GROUND WATER CONTAMINATION CONCENTRATION RADIOACTIVE WASTE DISPOSAL HANFORD PROJECT

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WASTES RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STROPOSPHERE CONTAMINATION

RADIOACTIVE WASTES

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING RADIATION DOSE DOSE ESTIMATION GROUND WATER FALLOUT ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RADIOACTIVE WASTES

06208 RADIOACTIVE WASTES FROM FUSION REACTORS. RADIOACTIVE WASTES WASTES NUCLEAR REACTORS NUCLEAR POWER INDUSTRY FUSION FUELS

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT ENVIRONMENTAL RADIATION RADIATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL COOLING WATER RIVERS RADIATION EXPOSURE COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES WASTES

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES WASTE DISPOSAL WASTES MOVEMENT GROUND WATER TRACERS STREAMS SAVANNAH RIVER PLANT

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS CANADA PERCH LAKE RADIOACTIVE WASTES WASTES RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES GROUND WATER TRITIATED WATER

06461 FISSION PRODUCT TRITIUM IN SEPARATIONS WASTES AND IN THE GROUND WATER. CONTAMINATION GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL COLUMBIA RIVER

06613 DIFFUSION OF TRITIATED MOISTURE FROM A STREAM. STREAMS ATMOSPHERE (TERRESTRIAL) MOISTURE DIFFUSION RADIOACTIVE WASTE DISPOSAL TRITIATED WATER VAPOR RADIOACTIVE WASTES

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW

AT THE SAVANNAH RIVER PLANT. GROUND WATER SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT TRACERS TRITIATED WATER MOVEMENT RADIOACTIVE WASTES

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WASTES RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1986. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL CHROMIUM GROUND WATER SURFACE WASTES AQUIPERS RADIOACTIVE WASTES TRACERS

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL SR-90 GROUND WATER SURFACE WASTES AQUIPERS RADIOACTIVE WASTES

06767 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTES ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL

06793 CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS, JANUARY-DECEMBER, 1964. HANFORD PROJECT GROUND WATER MONITORING ISOCONCENTRATION LINES CONCENTRATION BETA RADIATION RADIOACTIVE WASTES

06794 FISSION PRODUCT TRITIUM IN FUEL REPROCESSING WASTES. URANIUM FISSION RADIOLOGICAL HAZARDS RADIOACTIVE WASTES TRITIUM OXIDE DECONTAMINATION CONCENTRATION TRITIUM GAS RADIOACTIVE WASTE DISPOSAL FISSION PRODUCTS

06797 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. NATIONAL REACTOR TESTING STATION LITHOSPHERE ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06798 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06799 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. LITHOSPHERE NATIONAL REACTOR TESTING STATION ATMOSPHERE (TERRESTRIAL) RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES

06807 MANAGEMENT OF FISSION PRODUCT TRITIUM IN FUEL PROCESSING WASTES. RECYCLING DECONTAMINATION SURFACE WASTES GROUND WATER NUCLEAR FUEL PLANTS RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06808 ENVIRONMENT RADIOACTIVITY AT THE SHIPPINGPORT ATOMIC POWER STATION FOR THE SECOND HALF OF 1963 AND FOR CALENDAR YEAR 1963. SHIPPINGPORT ATOMIC POWER STATION OHIO RIVER FALLOUT BETA RADIATION RADIOACTIVE WASTES

06813 WASTE DISPOSAL. DILUTION DISTILLATION RECYCLING FUEL PROCESSING RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06819 SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966. OHIO RIVER SHIPPINGPORT ATOMIC POWER STATION RADIOACTIVE WASTES ENVIRONMENTAL MONITORING RADIOACTIVITY ALPHA RADIATION BETA RADIATION

06820 MOUND LABORATORY, JANUARY-JUNE 1966. PO-210 PU-238 MONITORING RADIOACTIVE WASTES MIAMI RIVER

06834 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION. RADIOACTIVE WASTES RADIATION NATIONAL REACTOR TESTING STATION GROUND WATER RADIOACTIVE WASTE DISPOSAL

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CB-141 CB-144 CB-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06881 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06883 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1967 AND 1967 SUMMARY. ENVIRONMENTS MIAMI RIVER RIVERS PU-238 PO-210 RADIOACTIVE WASTES

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

06988 TRITIUM SOURCES AND RELEASE TO THE ENVIRONMENT. CONCENTRATION NUCLEAR FUEL PLANTS NUCLEAR POWER INDUSTRY RADIOACTIVE WASTES NUCLEAR REACTORS

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS. NUCLEAR REACTORS REACTORS NUCLEAR POWER WASTES RADIOACTIVE WASTES SURFACE WATERS CONCENTRATION SAMPLING TRITIATED WATER

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CB-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07058 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION I-131 VEGETATION

07073 CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE RADIOLOGICAL SAFETY REPORT. CARLSBAD ROLL-UP PROGRAM PLOWSHARE PROGRAM CONTAMINATION SOIL CONTAMINATION DECONTAMINATION NEW MEXICO RADIOACTIVE WASTES

07083 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963. CONCENTRATION GROUND WATER HANFORD PROJECT WASTES CONTAMINATION RADIOACTIVE WASTES

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS

CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. TRITIATED WATER VAPOR RADIOACTIVE TRACERS TRACERS NUCLEAR FUEL PLANTS STACK DISPERSION RADIOACTIVE WASTES EFFLUENT AIR LIQUID SCINTILLATION COUNTING

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1963. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

07181 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING WASTE. RADIOACTIVE WASTES NUCLEAR FUEL PLANTS MOVEMENT SOILS GROUND WATER CONTAMINATION CONCENTRATION RADIOACTIVE WASTE DISPOSAL HANFORD PROJECT

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

07184 RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER REACTORS AND THE POPULATION. RADIATION EXPOSURE NUCLEAR POWER INDUSTRY NUCLEAR REACTORS NUCLEAR FUEL PLANTS DOSE ESTIMATION RADIOACTIVE WASTES MAN

RADIOACTIVITY

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS AND THEIR BIOLOGICAL SIGNIFICANCE. CONTAMINATION RADIOACTIVITY FALLOUT DOSE RATES SAFETY MAN RADIATION EXPOSURE FRESH WATER

04066 RECIPIENT CAPACITY OF TYAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE SEDIMENTS AND MARINE ORGANISMS. SEA WATER SEDIMENTS MARINE BIOLOGY HALF-LIFE DISTRIBUTION CONCENTRATION RADIOACTIVITY ENVIRONMENTS

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

05051 SOME SECOND THOUGHTS ON TRITIUM CONTAMINATION. CONTAMINATION RADIOACTIVITY GASES DIFFUSION WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL TRITIUM GAS RADIOLOGICAL HAZARDS

05104 TRITIUM HEALTH PHYSICS CONSIDERATIONS. RADIOACTIVITY MAXIMUM PERMISSIBLE CONCENTRATION TOXICITY GASES MONITORING TRITIATED WATER TRITIATED GAS

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE. THERMODYNAMICS HEAT CAPACITY ENTROPY ENERGY TRITIUM HYDRIDE RADIOACTIVITY DISSOCIATION THERMODYNAMIC EQUILIBRIUM

06371 THE PERSISTENCE OF RADIONUCLIDES AT SITES OF NUCLEAR DETONATIONS. NUCLEAR EXPLOSIONS RADIOACTIVITY DISTRIBUTION NUCLEAR CRATERS RETENTION

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS RAINFALL PRECIPITATION (METEOROLOGICAL) AIRBORNE CONTAMINATION CHEMICAL COMPOSITION RADIOACTIVITY

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC RESERVOIRS. AR-37 AR-39 C-14 RADIATION RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION KRYPTON XENON

06809 RADIOACTIVITY IN THE HYDROLOGIC ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT REPORT. WATER MOVEMENT RADIOACTIVITY CONCENTRATION SR-90 PROJECT RULISON HYDROLOGY FLOWSHARE PROGRAM

06819 SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966. OHIO RIVER SHIPPINGPORT ATOMIC POWER STATION RADIOACTIVE WASTES ENVIRONMENTAL MONITORING RADIOACTIVITY ALPHA RADIATION BETA RADIATION

06821 RADIOACTIVITY IN WATER - PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM MESASVERDE FORMATION RADIOACTIVITY CONCENTRATION GUIDES GROUND WATER TRANSPORT

06822 RADIOACTIVITY IN NEW YORK SURFACE WATER, JANUARY-JUNE 1966. RADIATION NEW YORK SURFACE WATERS BETA RADIATION SR-89 SR-90 RADIOACTIVITY

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1966; ANNUAL SUMMARY, 1966. RIVERS WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41 ILLINOIS RIVER DES PLAINES RIVER ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

06964 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ENVIRONMENTAL MONITORING STACK EMISSIONS I-129

KR-85 CONCENTRATION AIRBORNE PARTICULATES RADIOACTIVITY

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07140 A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL. PROJECT GASBUGGY FLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY DOSE EQUIVALENTS RADIATION EXPOSURE KR-85 CONCENTRATION RADIOLOGICAL HAZARDS

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

07159 RADIATION SURVEILLANCE NETWORKS. ENVIRONMENTAL MONITORING MILK DAIRY PRODUCTS FOODS RADIOACTIVITY PU-238 MONITORING NETWORKS

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1963. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

07187 FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES FROM NUCLEAR POWER PRODUCTION. GREAT LAKES LAKE MICHIGAN NUCLEAR REACTORS NUCLEAR POWER INDUSTRY TRANSPORT CONCENTRATION RADIOACTIVITY

RADIOASSAY

07132 ANALYSIS AND PUBLIC HEALTH ASPECTS OF ENVIRONMENTAL TRITIUM. RADIOASSAY LIQUID SCINTILLATION COUNTING RADIATION DOSE

07141 A NEW PROCEDURE OF LIQUID-SCINTILLATION COUNTING IN PLASTIC BAGS FOR H-3, C-14 AND P-32 IN BIOLOGICAL MATERIALS. LIQUID SCINTILLATION COUNTING C-14 P-32 RADIOASSAY BIOLOGICAL MATERIALS

RADIOBIOLOGY

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM. C-14 CARBON DIOXIDE NUCLEAR TESTING STRATOSPHERE PANAMA CANAL ZONE RADIOBIOLOGY

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. BIOLOGICAL EFFECTIVENESS P-32 RADIATION BETA RADIATION MICROBIOLOGY LACTOBACILLUS BACTERIA MICROORGANISMS PLANTS DOSIMETRY GROWTH RADIOBIOLOGY

06350 TRITIUM IN BIOLOGY. TRACERS BIOLOGICAL INDICATORS AUTORADIOGRAPHY RADIOBIOLOGY RADIOCHEMISTRY

07023 VERWENDUNG VON TRIERTEM WASSER (THO) ZUR PORTLAUFENDEN REGISTRIERUNG DES TRANSPIRATIONSVORLAUFES BEI INSEKTEN. (USE OF TRITIATED WATER FOR CONTINUOUS REGISTRATION OF INSECT TRANSPIRATION.) TRITIATED WATER INSECTS TRANSPIRATION BODY WATER RADIOBIOLOGY

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM METHOD OF MEASURING TOTAL BODY WATER. BODY WATER RADIOLOGICAL HAZARDS TRITIATED WATER RADIOBIOLOGY RADIATION EXPOSURE WHOLE BODY EXPOSURE

07102 A RELATION BETWEEN PROTIIUM/TRITIUM AND PROTIIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT 07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER EQUIPERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

07124 PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE. GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY TRACERS CELLULAR METABOLISM TOXICITY GENETIC EFFECTS RADIATION EFFECTS

RADIOCHEMICAL ANALYSIS

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN AGE TEMPERATURE WATER HALF-LIFE ANALYSIS SAVANNAH RIVER PLANT

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. LONG SHOT CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS ALASKA AMCHITKA ISLAND ALUTIAN ISLANDS WATER SPECTROCHEMICAL ANALYSIS

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06401 SIMPLIFIED SOLID-STATE SCINTILLATION COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN BIOLOGICAL AND ORGANIC MATERIALS. C-14 CL-36 RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS SCINTILLATION COUNTING TRITIATED COMPOUNDS

06458 LOW-LEVEL COUNTING BY LIQUID SCINTILLATION I TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06486 TRITIUM AND ITS COMPOUNDS.

CHEMICAL REACTIONS CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS SAFETY RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS ANALYSIS PHYSICAL PROPERTIES

06489 RADIOCARBON AND TRITIUM DATING. RADIOACTIVE AGE DETERMINATION GROWTH RINGS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY HYDROLOGY ANALYSIS OCEANS GEOLOGY SURFACE WATERS

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS URINE ANALYSIS SAVANNAH RIVER PLANT

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. SCINTILLATION COUNTING EQUIPMENT ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS CHEMISTRY BIOASSAY

06607 A CARBON DIOXIDE COLLECTION ACCESSORY FOR THE RAPID COMBUSTION APPARATUS FOR PREPARATION OF BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION ANALYSIS INSTRUMENTS CARBON DIOXIDE LIQUID SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS TRITIATED WATER

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING CHEMICAL REACTIONS ANALYSIS RADIOCHEMICAL ANALYSIS BIOCHEMISTRY CHEMICAL ANALYSIS ISOTOPE EXCHANGE TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY HAZARDS CHEMICAL SYNTHESIS

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS ANALYSIS ETHANE CHEMICAL ANALYSIS ORGANIC COMPOUNDS ETHYLENE CONCENTRATION GERMANY

06634 ACTIVITIES OF THE BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER NUCLEAR LABORATORIES. RADIOCHEMICAL ANALYSIS ANALYSIS BODY BURDEN CHEMICAL ANALYSIS EQUIPMENT URINE ANALYSIS

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY - GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. NATURAL GAS CONTAMINATION PLOWSHARE PROGRAM KR-85 GAS ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS FLUSHING DILUTION PROJECT GASBUGGY

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

07034 INTERLABORATORY COMPARISON OF ANALYSIS OF TRITIUM IN NATURAL WATERS. RADIOCHEMICAL ANALYSIS LABORATORY METHODS

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO. PROJECT RULISON PLOWSHARE PROGRAM MONITORING RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS RESERVOIRS SURFACE WATERS

RADIOCHEMISTRY

06283 THE RADIATION CHEMISTRY OF WATER VAPOR, THE INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF D-ATOMS WITH WATER MOLECULES. DECOMPOSITION REACTIONS DEUTERIUM WATER VAPOR GASES RADIOLYSIS RADIOCHEMISTRY EXCHANGE

06350 TRITIUM IN BIOLOGY. TRACERS BIOLOGICAL INDICATORS AUTORADIOGRAPHY RADIOBIOLOGY RADIOCHEMISTRY

RADIOISOTOPE PRODUCTION

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPE PRODUCTION TRITIATED WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

RADIOLOGICAL HAZARDS

05051 SOME SECOND THOUGHTS ON TRITIUM CONTAMINATION. CONTAMINATION RADIOACTIVITY GASES DIFFUSION WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL TRITIUM GAS RADIOLOGICAL HAZARDS

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06469 HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM OXIDE. MAXIMUM PERMISSIBLE CONCENTRATION RADIATION EXPOSURE OXIDES BIOLOGICAL EFFECTIVENESS TRITIUM OXIDE RADIOLOGICAL HAZARDS

06492 THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS. MAXIMUM PERMISSIBLE CONCENTRATION CHEMICAL COMPOUNDS HAZARDS URINE MAN INHALATION TRITIATED WATER VAPOR TRITIATED WATER TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS BODY BURDEN

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06794 FISSION PRODUCT TRITIUM IN FUEL REPROCESSING WASTES. URANIUM FISSION RADIOLOGICAL HAZARDS RADIOACTIVE WASTES TRITIUM OXIDE DECONTAMINATION CONCENTRATION TRITIUM GAS RADIOACTIVE WASTE DISPOSAL FISSION PRODUCTS

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM. PE-55 NI-59 RADIATION MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER RADIOLOGICAL HAZARDS CONTAMINATION NUCLEAR REACTORS

06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS. GAS-GRAPHITE REACTORS HEAVY WATER REACTORS LATINA REACTOR NUCLEAR REACTORS ACTIVATION HAZARDS TRITIATED WATER RADIOLOGICAL HAZARDS

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. TRITIUM OXIDE RADIATION HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS NUCLEAR REACTORS

06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. HEAVY WATER REACTORS TRITIUM PERMEABILITY POLYVINYL CHLORIDE POLYMER FILMS TRITIATED WATER RADIOLOGICAL HAZARDS NUCLEAR REACTORS

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS. RADIOLOGICAL HAZARDS HEAVY WATER REACTORS NUCLEAR REACTORS CONCENTRATION ASSIMILATION URINE BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

07030 RADIOLOGICAL PROTECTION PROBLEMS OF TRITIUM. TRITIATED WATER VAPOR RADIOLOGICAL HAZARDS TRITIATED WATER RADIOLOGICAL SAFETY

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM METHOD OF MEASURING TOTAL BODY WATER. BODY WATER RADIOLOGICAL HAZARDS TRITIATED WATER RADIOBIOLOGY RADIATION EXPOSURE WHOLE BODY EXPOSURE

07063 HAZARDS OF TRITIUM FROM CONTROLLED FISSION. RADIOLOGICAL HAZARDS NUCLEAR POWER

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

07076 TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION. HEALTH HAZARDS HAZARDS RADIOLOGICAL HAZARDS CONTAMINATION PARTICLE ACCELERATORS

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07101 EVALUATION OF POTENTIAL HAZARDS FROM TRITIUM WATER. RADIOLOGICAL HAZARDS TRITIATED WATER BIOLOGICAL DOSE EQUIVALENTS EXCRETION CONCENTRATION ORGANS DNA GENETIC EFFECTS

07102 A RELATION BETWEEN PROTIUM/TRITIUM AND PROTIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT 07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIFERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS. AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT THYROID GLAND BONE WHOLE BODY EXPOSURE NUCLEAR REACTORS

07140 A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL. PROJECT GASBUGGY PLOWSHARE PROGRAM NATURAL GAS RADIOACTIVITY DOSE EQUIVALENTS RADIATION EXPOSURE KR-85 CONCENTRATION RADIOLOGICAL HAZARDS

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL I-131 PU-239

07181 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS CONCENTRATION SURFACE WATERS RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS RADIATION DOSE RADIOLOGICAL HAZARDS TRITIATED WATER MUTATIONS RADIATION EFFECTS GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

RADIOLOGICAL SAFETY

07030 RADIOLOGICAL PROTECTION PROBLEMS OF TRITIUM. TRITIATED WATER VAPOR RADIOLOGICAL HAZARDS TRITIATED WATER RADIOLOGICAL SAFETY

RADIOLYSIS

08283 THE RADIATION CHEMISTRY OF WATER VAPOR, THE INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF D-ATOMS WITH WATER MOLECULES. DECOMPOSITION REACTIONS DEUTERIUM WATER VAPOR GASES RADIOLYSIS RADIOCHEMISTRY EXCHANGE

RADIOPHARMACEUTICALS

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

RADIOPHOTOLUMINESCENT DOSIMETERS

06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. ATMOSPHERIC TRITIUM DOSIMETERS PHOTOGRAPHIC DOSIMETERS THERMOLUMINESCENT DOSIMETERS RADIOPHOTOLUMINESCENT DOSIMETERS MONITORING PERSONNEL MONITORING

RADIOSENSITIVITY

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINE DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

06391 THE DESTRUCTION OF RIBOFLAVIN, BIOTIN AND FOLIC ACID IN VERY DILUTE AQUEOUS SOLUTION BY TRITIUM BETA RADIATION. VITAMINS BETA RADIATION RADIATION RADIOSENSITIVITY RADIATION EFFECTS

07088 THE EFFECTS OF TRITIUM DECAY ON DNA. PROGRESS REPORT FOR THE PERIOD 1 JANUARY-31 DECEMBER 1967. RADIOACTIVE DECAY DNA ESCHERICHIA BACTERIA MICROORGANISMS RADIATION EFFECTS RADIOSENSITIVITY

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

RADIOTOXICITY

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. INTAKE RATE TRITIATED THYMIDINE RADIOTOXICITY TOXICITY MICE RETENTION UPTAKE METABOLISM

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE PIXATION BACTERIA MICROORGANISMS

RADISHES

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN PLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

RADIUM

04682 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. TRITIATED POLYMERS LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION CONTAMINATION CONCENTRATION GRAM-LAMBERT MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF

TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

RADON

04682 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

RAINFALL

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II SOIL AND EJECTA STUDIES. PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS SOIL MOISTURE PERIODIC VARIATIONS SEDAN SOILS EJECTA RAINFALL DEPTH PLOWSHARE PROGRAM NEVADA TEST SITE

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER. LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE DISTRIBUTION RAINFALL DEPTH EJECTA PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION PLOWSHARE PROGRAM NEVADA TEST SITE

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT LAKE TAHOE NEVADA TEST SITE CS-137 SR-90 CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES RAINFALL SURFACE WATERS

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM II. DISTRIBUTION COSMIC RADIATION SURFACE WATERS RADIATION RAINFALL PRECIPITATION (METEOROLOGICAL) TRITIATED WATER SEA WATER FRESH WATER WINES

06616 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS RAINFALL PRECIPITATION (METEOROLOGICAL) AIRBORNE CONTAMINATION CHEMICAL COMPOSITION RADIOACTIVITY

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA SOIL DENSITY NUCLEAR EXCAVATION

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL TRITIATED WATER SOILS RAINFALL LEACHING SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DISTRIBUTION

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90 RAINFALL FALLOUT RADIATION STRATOSPHERE ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT RESIDENCE TIME

06873 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER, GROUND WATER AND HOT SPRING. CITY WATER GROUND WATER HOT SPRINGS ELECTROLYTIC ENRICHMENT PRECIPITATION (METEOROLOGICAL) RAINFALL

06878 TRITIUM CONCENTRATION IN PRECIPITATION, 1967-1968. ENVIRONMENTS ALTITUDE SEASONAL VARIATIONS HYDROLOGICAL CYCLING PRECIPITATION (METEOROLOGICAL) RAINFALL CONCENTRATION

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC TRITIUM FROM THERMONUCLEAR EXPLOSIONS). PRECIPITATION (METEOROLOGICAL) RAINFALL ATMOSPHERIC HYDROGEN ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING FRANCE

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA

NICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING 1966, 1967, AND 1968. RAINOUT FALLOUT PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING DISTRIBUTION RAINFALL SAMPLING SAMPLING NETWORKS

07016 HURRICANE TRITIUM III; EVAPORATION OF SEA WATER IN HURRICANE FAITH 1966. TRITIATED WATER HURRICANES DESTRUCTIVE FACTORS EVAPORATION SEA WATER RADIAL DISTRIBUTION RAINFALL DISTRIBUTION EQUATIONS METEOROLOGY

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) FALLOUT CANADA EUROPE ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RAINFALL PRECIPITATION (METEOROLOGICAL) CONCENTRATION

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-161 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

07166 VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) SNOWPACK CZECHOSLOVAKIA SNOW RAINFALL WATER BALANCE

RAINFORESTS

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD Q. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

07089 THE RAIN FOREST PROJECT, ANNUAL REPORT PY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST. TRITIATED WATER MOVEMENT SOILS RAINFORESTS LITTER ROOTS RESIDENCE TIME PUERTO RICO TROPICS

RAINOUT

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06211 NATURAL TRITIUM IN GROUNDWATER STUDIES. GROUND WATER HYDROLOGY ICELAND RAINOUT FALLOUT CONCENTRATION

06244 STRATOSPHERIC TRITIUM (STRATOSPHERIC TRITIUM). PRECIPITATION (METEOROLOGICAL) RAINOUT GERMANY TROPOSPHERE MODELS STRATOSPHERE WASHOUT DEPOSITION

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. NATIONAL REACTOR TESTING STATION GROUND WATER HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION SURFACE WATERS RAINFALL TRITIATED WATER NUCLEAR FUEL PLANTS PRECIPITATION (METEOROLOGICAL) RAINOUT CONCENTRATION RADIOACTIVE WASTES

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 8TH PROGRESS REPORT. SURFACE WATERS SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS RAINFALL PRECIPITATION (METEOROLOGICAL) AIRBORNE CONTAMINATION CHEMICAL COMPOSITION RADIOACTIVITY

06965 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS RAINWATER GERMANY CONCENTRATION RAINOUT WASHOUT ATMOSPHERE (TERRESTRIAL) PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL)

06966 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

06967 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN 1962 AND 1963. RAINOUT WASHOUT SEASONAL VARIATIONS PERIODIC VARIATIONS DISTRIBUTION UNITED STATES CONCENTRATION PRECIPITATION (METEOROLOGICAL) SAMPLING SAMPLING NETWORKS ALASKA PUERTO RICO

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING 1966, 1967, AND 1968. RAINOUT FALLOUT PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING DISTRIBUTION RAINFALL SAMPLING SAMPLING NETWORKS

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT

INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

RAINWATER

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA DEPOSITION EVAPORATION PRECIPITATION (METEOROLOGICAL) RAINFALL DISTRIBUTION METEOROLOGY MODELS SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06212 TRITIUM HYDROLOGY IN NEW ZEALAND. HYDROLOGY NEW ZEALAND RAINWATER CONCENTRATION SURFACE WATERS GROUND WATER MOVEMENT TRACERS

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM ACTIVITY IN THE SOUTHWEST OF FRANCE). RAINWATER FRANCE GROUND WATER LAKES SEASONAL VARIATIONS PERIODIC VARIATIONS

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS. C-14 TREES PLANTS RAINWATER TROPOSPHERE ATMOSPHERE (TERRESTRIAL) STRATOSPHERE GROWTH RINGS CONCENTRATION

06460 NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS. C-14 KR-85 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES PLANTS RAINWATER CONCENTRATION

06841 MESSUNG DES TRITIUM-JAHRESGANGES IM REGEN 1960-61 NACH ISOTOPENANREICHERUNG IN TRENNROHR (MEASUREMENT OF THE TRITIUM CONCENTRATION PATTERN IN RAIN IN 1960-61 BY ISOTOPIC ENRICHMENT IN THE SEPARATION PERIOD). GERMANY SR-90 RAINWATER CONCENTRATION

06871 TRITIUM IN RAINWATER. COSMIC RADIATION RADIATION TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) RAINWATER PRODUCTION RATE HYDROLOGY

06876 STOCKHOLM NATURAL TRITIUM MEASUREMENTS I. DEUTERIUM OCEANS BALTIC SEA PRECIPITATION (METEOROLOGICAL) RAINWATER

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

06902 TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN WATER - INSTRUMENTATION. ENVIRONMENTS RAINWATER SEA WATER SURFACE WATERS GROUND WATER HAWAII

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE). ATMOSPHERE (TERRESTRIAL) LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS PERIODIC VARIATIONS

06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER. DEUTERIUM HYDROGEN RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06956 MEASUREMENT OF TRITIUM AT NATURAL LEVELS. CITY WATER RAINWATER WELL WATER NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) CONTAMINATION

06964 THE DETERMINATION OF TRITIUM IN NATURAL WATERS. RAINWATER SEA WATER SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING CANADA WASHOUT

06965 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS RAINWATER GERMANY CONCENTRATION RAINOUT WASHOUT ATMOSPHERE (TERRESTRIAL) PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL)

06977 TRITIUM CONTENT OF RAIN IN TRONDHEIM. CONCENTRATION RAINWATER RESIDENCE TIME STRATOSPHERE SR-90 PRECIPITATION (METEOROLOGICAL) MONITORING NORWAY

07022 RESULTATS DE MESURES D ACTIVITEEN TRITIUM DE CERTAINES EAUX DU SUD-OUEST. (RESULTS OF TRITIUM ACTIVITY MEASUREMENTS OF SOME WATER OF SOUTHWEST.) RAINWATER LAKES VEGETABLES DISTRIBUTION FRANCE

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE NATURAL WATER OF SOUTHERN OAHU, HAWAII. CONCENTRATION RAINWATER GROUND WATER HAWAII TRITIATED WATER ELECTROLYTIC ENRICHMENT LIQUID SCINTILLATION COUNTING

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

07082 MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION. LABORATORY METHODS RAINWATER TRACERS METEOROLOGY WATER CIRCULATION ELECTROLYTIC ENRICHMENT MEASUREMENT

07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN. WASHOUT TRITIATED WATER WATER VAPOR RAINWATER EXCHANGE SPECIFIC ACTIVITIES STACK EMISSIONS

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BS-7 MN-54 SR-90 ZR-95 RU-103 RH-108 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. TRACERS SOIL MOISTURE MOVEMENT EVAPOTRANSPIRATION RAINWATER DISPERSION DEUTERIUM ENRICHMENT SOILS

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

RATE CONSTANTS

06969 TRANSFER OF CARBON 14 AND TRITIUM FROM THE

ATMOSPHERE TO THE OCEAN. C-14 STRATOSPHERE TROPOSPHERE TRANSFER OCEANS THERMOCLINE RATE CONSTANTS NUCLEAR EXPLOSIONS

RATS

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. OXIDATION MAMMALS BACTERIA PLANTS MICROORGANISMS RATS RODENTS PHYSIOLOGY

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. FRACTIONATION DEUTERIUM BIOLOGICAL SYSTEMS RATS MAMMALS RODENTS T/D RATIO BODY WATER

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS TISSUES DEUTERIUM T/D RATIO

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. TISSUES GASES RATS MAMMALS RODENTS WHOLE BODY EXPOSURE RADIATION EXPOSURE TRITIUM GAS TRITIUM OXIDE DISTRIBUTION RETENTION

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS TRITIUM OXIDE RETENTION

06360 EFFECT OF RADIATION ON THE INCORPORATION OF TRITIUM BY THE RAT. OXIDES RATS MAMMALS RODENTS TISSUES TRITIUM OXIDE ABSORPTION

06368 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE FLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. RATS MAMMALS RODENTS ABSORPTION TRITIUM GAS TRITIUM OXIDE DISTRIBUTION METABOLISM

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDS AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION STUDIES. TRITIATED THYMIDINE X-IRRADIATION RADIATION ORGANS RATS UPTAKE KIDNEY RADIATION EFFECTS

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. TRITIUM OXIDE METABOLISM MICE RATS MAN EXCRETION SPECIFIC ACTIVITIES BIOLOGICAL HALF-LIFE

06784 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. TRITIUM OXIDE PERCUTANEOUS ABSORPTION MICE RATS PULMONARY ABSORPTION ABSORPTION MAN

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

06860 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. TRITIATED WATER RABBITS RATS TOTAL BODY WATER RADIATION SPECIFIC ACTIVITIES BODY WATER

06862 EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE (K EKSPERIMENTAL NOMU OBOSNOVANIYU PREDEL NO DOPUSTIMOY KONTSENTRATSIYI OKISI TRITIYA). MAXIMUM PERMISSIBLE CONCENTRATION TISSUES BODY BURDEN RATS TRITIUM OXIDE RELATIVE BIOLOGICAL EFFECTIVENESS

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS PATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

06878 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

06892 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSASYVANIYE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS

PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS PETUS EMBRYO

07010 A COMPARISON OF H-3- AND C-14-GLUCOSE METABOLISM IN THE INTACT RAT. TRITIATED GLUCOSE TRITIATED COMPOUNDS METABOLISM RATS RODENTS C-14

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN FLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO PETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE. TRITIUM OXIDE TRANSFER PETUS RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS RADIATION DOSE

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS PETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS RODENTS MAMMALS FATTY ACIDS RETENTION DISTRIBUTION

RA-226

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

06269 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS. LUMINESCERS RADIOACTIVE LUMINOUS PAINTS TRITIATED WATER RADIATION PR-147 RA-226 MONITORING MAN

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

RB-87

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

REACTOR FUELS

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

REACTORS

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE L'ATMOSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION). TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER COSMIC RADIATION RADIATION REACTORS SOIL CONTAMINATION NUCLEAR EXPLOSIONS

07036 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS. NUCLEAR REACTORS REACTORS NUCLEAR POWER WASTES RADIOACTIVE WASTES SURFACE WATERS CONCENTRATION SAMPLING TRITIATED WATER

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES. CONTAMINATION NUCLEAR REACTORS REACTORS NUCLEAR POWER NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONCENTRATION LAKES

07135 ZUR FRAGE DER FESTSETZUNG HOCHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER. (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER.) NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY GERMANY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

REGENERATION

06506 TRACER MEASUREMENT OF STREAM REGENERATION. RADIOACTIVE TRACERS EXCHANGE REACTIONS REGENERATION DYES KR-85 JACKSON RIVER

RECHARGE

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. CONCENTRATION GROUND WATER MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE CLAYS SOILS PERMEABILITY

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA. GROUND WATER SOUTH AFRICA AQUIPERS PRECIPITATION (METEOROLOGICAL) RECHARGE HYDROLOGICAL CYCLING CONCENTRATION

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. C-14 GROUND WATER AQUIPERS HYDROLOGY RECHARGE HYDROLOGIC MODELS MODELS SOUTH AFRICA

07173 TRITIUM AND OXYGEN-16 IN NATURAL WATER SAMPLES FROM SWITZERLAND. O-16 ALPS CONCENTRATION SPRINGS SEASONAL VARIATIONS RECHARGE GROUND WATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

RECHARGE BASINS

07056 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION I-131 VEGETATION

RECOVERY

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPE PRODUCTION TRITIATED WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES. ELECTROLYTIC ENRICHMENT ENRICHMENT CONCENTRATION SNOW PRECIPITATION (METEOROLOGICAL) THERMAL DIFFUSION RECOVERY ANTARCTIC

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. TRITIATED WATER FLOWSHARE PROGRAM CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS OIL LEACHING CONCENTRATION OIL SHALE

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. CONTAMINATION OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE RETORTED OIL

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

RECYCLING

06807 MANAGEMENT OF FISSION PRODUCT TRITIUM IN FUEL PROCESSING WASTES. RECYCLING DECONTAMINATION SURFACE WATERS GROUND WATER NUCLEAR FUEL PLANTS RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06813 WASTE DISPOSAL. DILUTION DISTILLATION RECYCLING FUEL PROCESSING RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

REDWING OPERATION

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

REGOLITH

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

RELATIVE BIOLOGICAL EFFECTIVENESS

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

06862 EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE (K EKSPERIMENTAL'NOMU OBOSNOVANIYU PREDEL NO DOPUSTIMOI KONTSENTRATSII OKISI TRITIYA). MAXIMUM PERMISSIBLE CONCENTRATION TISSUES BODY BURDEN RATS TRITIUM OXIDE RELATIVE BIOLOGICAL EFFECTIVENESS

07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. DNA TRITIATED THYMIDINE GENETIC EFFECTS BIOLOGICAL EFFECTS MUTATIONS RELATIVE BIOLOGICAL EFFECTIVENESS CELLS CELL NUCLEUS

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS PETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

REPAIR

07144 REPAIRING A LARGE TRITIUM-CONTAMINATED SYSTEM. DRY BOX SYSTEM REPAIR GAS PURIFICATION SYSTEM CONTAMINATION RADIATION EXPOSURE MAN

REPROCESSING

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

REPRODUCTION

06852 EINBAU VON H-3-D-GLUCOSE WAEREND DER OOGENSE BEI APIS MELLIFICA L (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENESIS IN APIS MELLIFICA L). TRITIATED GLUCOSE GLYCOGEN HONEY BEE INSECTS INSECT OOGENESIS REPRODUCTION

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS PETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

RESERVOIRS

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO. PROJECT RULISON FLOWSHARE PROGRAM MONITORING RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS RESERVOIRS SURFACE WATERS

RESIDENCE TIME

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06223 NEUBESTIMUNG DER NATUERLICHEN IRDISCHEN TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES NATUERLICHEN TRITIUM (REDTERMINATION OF NATURAL TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE OF NATURAL TRITIUM). RADIOACTIVE DECAY COSMIC RADIATION RADIATION RESIDENCE TIME STRATOSPHERE TROPOSPHERE SNOW GREENLAND

06226 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. SURFACE WATERS NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN INPUT-OUTPUT ANALYSIS ANALYSIS RESIDENCE TIME

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING

RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06278 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE ENVIRONMENT. BEHAVIOR ENVIRONMENTS OXIDATION FALLOUT RESIDENCE TIME STRATOSPHERE OCEANS TRITIATED WATER

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER. PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN SURFACE WATERS RESIDENCE TIME DEPTH SPECIFIC ACTIVITIES

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS FLOWSHARE PROGRAM SOILS

06845 TRITIUM IN SURFACE WATERS OF THE NORTH PACIFIC. SURFACE WATERS OCEANS RADIATION RESIDENCE TIME MIXED LAYER NORTH PACIFIC OCEAN SPECIFIC ACTIVITIES

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90 RAINFALL FALLOUT RADIATION STRATOSPHERE ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT RESIDENCE TIME

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06977 TRITIUM CONTENT OF RAIN IN TRONDHEIM. CONCENTRATION RAINWATER RESIDENCE TIME STRATOSPHERE SR-90 PRECIPITATION (METEOROLOGICAL) MONITORING NORWAY

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS ACCUMULATION ECOSYSTEMS 06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS CONCENTRATION SOILS DEPTH

07029 SOME CONSIDERATIONS ON TRITIUM DATING AND THE ESTIMATES OF TRITIUM INPUT FUNCTION. RADIOACTIVE AGE DETERMINATION GROUND WATER HYDROLOGY CONCENTRATION PRECIPITATION (METEOROLOGICAL) RESIDENCE TIME

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1989. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) TRACERS LAKES MIXING ESTUARIES RADIOACTIVE TRACERS LAKE GENEVA FRANCE RESIDENCE TIME

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST. TRITIATED WATER MOVEMENT SOILS RAINFORESTS LITTER ROOTS RESIDENCE TIME PUERTO RICO TROPICS

RESPIRATION RATE

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER. TRITIATED WATER INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR TRITIATED WATER VAPOR SKIN

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

RESPIRATORY INTAKE

06953 TRITIUM ET VAPEUR D'EAU TRITIÉE - DUREES LIMITEES D'EXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE (TRITIUM AND TRITIATED WATER VAPOR - TIME LIMITS FOR ACCIDENTAL EXPOSURE IN STABLE OR RENEWED ATMOSPHERE). TRITIATED WATER VAPOR RESPIRATORY INTAKE OXIDATION VENTILATION RADIATION EXPOSURE

RESPIRATORY QUOTIENT

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

RESPIRATORY TRACT

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN RESPIRATORY TRACT BODY FLUIDS TRITIATED WATER VAPOR

RETENTION

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE MIXING RETENTION

06192 ESTIMATION OF MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOISOTOPES IN WATER (MPC)W FROM INTERSPECIES CORRELATIONS I COMPARISON OF ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND TRITIUM. EN-65 MAXIMUM PERMISSIBLE CONCENTRATION WATER MAN RETENTION

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE

AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION METABOLISM KIDNEY BEANS BEANS PH CROPS LEGUMES PLANTS VEGETABLES RETENTION LIGHT TRITIUM OXIDE TRITIUM GAS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06371 THE PERSISTENCE OF RADIONUCLIDES AT SITES OF NUCLEAR DETONATIONS. NUCLEAR EXPLOSIONS RADIOACTIVITY DISTRIBUTION NUCLEAR CRATERS RETENTION

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968, BIOLOGY AND HEALTH PHYSICS DIVISION. ATMOSPHERE (TERRESTRIAL) CANADA RIVERS GROWTH RINGS SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS DEPOSITION STRATOSPHERE TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. TISSUES GASES RATS MAMMALS RODENTS WHOLE BODY EXPOSURE RADIATION EXPOSURE TRITIUM GAS TRITIUM OXIDE DISTRIBUTION RETENTION

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS TRITIUM OXIDE RETENTION

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES BODY WATER SNAILS GASTROPODS AQUATIC LIFE MOLLUSKS ABSORPTION FISH RETENTION TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. INTAKE RATE TRITIATED THYMIDINE RADIOTOXICITY TOXICITY MICE RETENTION UPTAKE METABOLISM

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE. C-14 DNA MICE TUMORS CARCINOGENIC EFFECTS RETENTION TRITIATED THYMIDINE RADIATION EFFECTS

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS UPTAKE CONCENTRATION INVERTEBRATES BIOLOGICAL HALF-LIFE

06812 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM AFTER INCORPORATION OF H-3-THYMIDINE. TRITIATED THYMIDINE RABBITS CORNEAL ENDOTHELIUM ENDOTHELIAL CELLS ENDOTHELIUM DNA SYNTHESIS RETENTION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06836 THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS. TRITIATED WATER FATS SKIN BODY FLUIDS RETENTION SPECIFIC ACTIVITIES TISSUES BIOLOGICAL HALF-LIFE

06878 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED FOLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED FOLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. LABELING TRITIATED THYMIDINE CHROMOSOMES DNA BIOLOGICAL EFFECTS RADIATION EFFECTS RETENTION GENETIC EFFECTS

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIFERS

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968. SHALE CANE RETENTION PENETRATION EXTRACTION FLOWSHARE PROGRAM SEDIMENTARY ROCK ROCK CONTAMINATION

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS RODENTS MAMMALS FATTY ACIDS RETENTION DISTRIBUTION

RETORTED OIL

07055 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1969. CANE FLOWSHARE PROGRAM OIL SHALE CONTAMINATION RETORTED OIL

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALES. CONTAMINATION OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR

TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE RETORTED OIL

REVIEW

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

RHODAMINE-B

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

RHODESIA

06265 GROUNDWATER STUDIES IN THE SABI VALLEY, RHODESIA, USING NATURAL TRITIUM MEASUREMENTS. GROUND WATER RADIOACTIVE AGE DETERMINATION TRACERS MOVEMENT SABI VALLEY RHODESIA

RHODOTORULA

06639 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

RH-RU-106

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-78 SB-122 MAN ORGANS

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER CONTAMINATION RADIATION HANFORD PROJECT RADIOACTIVE WASTE DISPOSAL BETA RADIATION RH-RU-106 WASTE DISPOSAL AQUIFERS SR-90 CS-137

06681 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

RH-102

06693 TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN FALLOUT RH-102 TROPOSPHERE STRATOSPHERE DEUTERIUM NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

RH-106

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

RIVER WATER

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

RIVERS

HANFORD PROJECT RIVERS ENVIRONMENTAL MONITORING RADIATION DOSE DOSE ESTIMATION GROUND WATER FALLOUT ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING RADIOACTIVE WASTES

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

06267 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELCEPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-60 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT ENVIRONMENTAL RADIATION RADIATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL COOLING WATER RIVERS RADIATION EXPOSURE COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES WASTES

06267 THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS. PLANTS SOVIET UNION WATER VAPOR GASES PRECIPITATION (METEOROLOGICAL) LAKES RIVERS GROUND WATER CONCENTRATION

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, APRIL 1 TO JUNE 30, 1969. PRECIPITATION (METEOROLOGICAL) RIVERS GASES INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR CANADA TRITIATED WATER

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06336 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

06367 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. RIVERS WATER TRANSPORT MATHEMATICAL MODELS MODELS HALF-LIFE HYDROLOGY

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. ATMOSPHERE (TERRESTRIAL) CANADA RIVERS GROWTH RINGS SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS DEPOSITION STRATOSPHERE TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS EQUIPMENT ABSORPTION SKIN PRECIPITATION (METEOROLOGICAL) MAN

06397 TRITIUM IN NATURE. COSMIC RADIATION PRECIPITATION (METEOROLOGICAL) WATER LAKES OCEANS RIVERS SURFACE WATERS PRODUCTION RATE WINES SEA WATER

06465 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1968. SURFACE WATERS CLINCH RIVER RIVERS POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06466 TRITIUM IN SURFACE WATER NETWORK, 1967. SURFACE WATERS RIVERS SAVANNAH RIVER POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06471 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1969. SAMPLING SURFACE WATERS CLINCH RIVER RIVERS WATER POLLUTION POLLUTION NUCLEAR FUEL PLANTS

06475 TRITIUM IN NEW YORK STATE WATERS, 1965. NEW YORK RIVERS LAKES SAMPLING CONCENTRATION GROUND WATER

06476 TRITIUM IN SURFACE WATER NETWORK, JULY-DECEMBER 1968. SURFACE WATERS SAVANNAH RIVER RIVERS SAMPLING CONCENTRATION NUCLEAR FUEL PLANTS

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. MONITORING ENVIRONMENTAL RADIATION RADIATION PU-238 PO-210 RIVERS ATMOSPHERE (TERRESTRIAL) GROUND WATER MIAMI RIVER

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ENVIRONMENTAL RADIATION RADIATION MONITORING

PLUTONIUM POLONIUM RIVERS GROUND WATER ATMOSPHERE (TERRESTRIAL) MIAMI RIVER

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. RIVERS RADIOCHEMICAL ANALYSIS ANALYSIS ETHANE CHEMICAL ANALYSIS ORGANIC COMPOUNDS ETHYLENE CONCENTRATION GERMANY

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

06682 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. FLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

06683 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1967 AND 1967 SUMMARY. ENVIRONMENTS MIAMI RIVER RIVERS PU-238 PO-210 RADIOACTIVE WASTES

06696 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06698 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL SUMMARY, 1968. RIVERS WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41 ILLINOIS RIVER DES PLAINES RIVER ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

07075 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING MOUND LABORATORY TRITIUM OXIDE MONITORING

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SALT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

07123 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. APPENDICES. ENVIRONMENTAL MONITORING HANFORD PROJECT CONCENTRATION COLUMBIA RIVER RIVERS

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

07135 ZUR FRAGE DER FESTSETZUNG HOECHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER. (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER.) NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY GERMANY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

07149 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1969. PU-238 PO-210 ENVIRONMENTAL MONITORING MOUND LABORATORY MIAMI RIVER RIVERS CONCENTRATION

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA SURFACE WATERS PRECIPITATION (METEOROLOGICAL) HYDROLOGICAL CYCLING CONCENTRATION SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS ALASKA GREENLAND

RN-220

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

RN-222

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-226 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

ROCK

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN PRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROBIOLOGY

06626 TRANSPORT OF RADIONUCLIDES BY GROUND WATER-SOME THEORETICAL ASPECTS. GROUND WATER TRANSPORT ROCK NEVADA TEST SITE TRACERS

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 QD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS

(CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1969. CANE SHALE SEDIMENTARY ROCK ROCK CONTAMINATION TRITIATED METHANE TRITIATED ETHANE FLOWSHARE PROGRAM

07084 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1969. CONTAMINATION SHALE ROCK SEDIMENTARY ROCK CANE FLOWSHARE PROGRAM

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968. SHALE CANE RETENTION PENETRATION EXTRACTION FLOWSHARE PROGRAM SEDIMENTARY ROCK ROCK CONTAMINATION

RODENTS

06165 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACS) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE NICE RATS RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPDOMYS DESERTI WITH TRITIATED WATER. BODY WATER BODY FLUIDS KANGAROO RATS RODENTS MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION XEROPHIL METABOLISM

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER I GROSS STUDIES ON METABOLISM NICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE NICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. OXIDATION MAMMALS BACTERIA PLANTS MICROORGANISMS RATS RODENTS PHYSIOLOGY

06260 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. FRACTIONATION DEUTERIUM BIOLOGICAL SYSTEMS RATS MAMMALS RODENTS T/D RATIO BODY WATER

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. NICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS TISSUES DEUTERIUM T/D RATIO

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. TISSUES GASES RATS MAMMALS RODENTS WHOLE BODY EXPOSURE RADIATION EXPOSURE TRITIUM GAS TRITIUM OXIDE DISTRIBUTION RETENTION

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS TRITIUM OXIDE RETENTION

06380 EFFECT OF RADIATION ON THE INCORPORATION OF TRITIUM BY THE RAT. OXIDES RATS MAMMALS RODENTS TISSUES TRITIUM OXIDE ABSORPTION

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. LIVER NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS RADIATION EXPOSURE PLOWSHARE PROGRAM NEVADA TEST SITE KANGAROO RATS

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. RATS MAMMALS RODENTS ABSORPTION TRITIUM GAS TRITIUM OXIDE DISTRIBUTION METABOLISM

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE. ENZYMES CHEMICAL REACTIONS TAGGING TRITIATED WATER MUSCLE TISSUES RABBITS RODENTS

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIVANIE VREMENI GODA I TEMPERATURY NA VSASYVANIE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS FETUS EMBRYO

07010 A COMPARISON OF H-3- AND C-14-GLUCOSE METABOLISM IN THE INTACT RAT. TRITIATED GLUCOSE TRITIATED COMPOUNDS METABOLISM RATS RODENTS C-14

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE. TRITIUM OXIDE TRANSFER FETUS RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS RADIATION DOSE

07068 STATE OF AUTOINFECTION RESISTANCE IN MICE TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE MICE MAMMALS RODENTS RADIATION SICKNESS RADIATION EFFECTS MICROORGANISMS

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALP-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS FETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION FIXATION TRITIATED WATER RADIATION DOSE INHALATION BIOLOGICAL EFFECTS MORTALITY MICE RODENTS

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS RODENTS MAMMALS FATTY ACIDS RETENTION DISTRIBUTION

ROOT SYSTEM

06875 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION. TRITIATED WATER ROOT SYSTEM ROOTS PLANTS HELIANTHUS TRANSPIRATION UPTAKE FLOWERING PLANTS

ROOTS

06147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROGEOLOGY

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

06886 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. TRITIATED WATER

ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT CL-36 UPTAKE TRANSPORT

06875 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION. TRITIATED WATER ROOT SYSTEM ROOTS PLANTS HELIANTHUS TRANSPIRATION UPTAKE FLOWERING PLANTS

06886 RADIAL EXCHANGE OF LABELED WATER IN INTACT MAIZE ROOTS. TRITIATED WATER ROOTS CORTEX ENDODERMIS METABOLISM DIFFUSION COEFFICIENT DIFFUSION UPTAKE

06928 PROGRESS REPORT (ON THE USE OF TRITIATED THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN THE STUDY OF LATERAL ROOT INITIATION), 1965-1966. TRITIATED THYMIDINE TRITIATED WATER ROOTS SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES RADIATION EFFECTS

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST. TRITIATED WATER MOVEMENT SOILS RAINFORESTS LITTER ROOTS RESIDENCE TIME PUERTO RICO TROPICS

ROUTE 17 (ATRATO-TRUANDO)

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

ROUTE 17 (SASARDI-MORTI)

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

RUBIDIUM

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

RUNOFF

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

RU-RH-106

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

RU-103

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CE-141 CE-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

RU-106

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN PLOWSHARE PROGRAM NEVADA TEST SITE

06802 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION SR-90 RU-106 CONTAMINATION GROUND WATER TC-99 RADIOACTIVE DECAY CS-137 LEACHING

06812 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER 1968. RU-106 GROUND WATER CONTAMINATION HANFORD PROJECT AQUIPERS CONCENTRATION

06814 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JANUARY-JUNE, 1969. RU-106 GROUND WATER HANFORD PROJECT CONCENTRATION

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CE-141 CE-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. PLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PB-55 SR-90 SB-125 BU-155 SM-151 CD-113 QD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-46 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07069 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY- JUNE, 1968. GROUND WATER CONTAMINATION CONCENTRATION MAXIMUM PERMISSIBLE CONCENTRATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL AQUIPERS HANFORD PROJECT RU-106

07095 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT JULY- DECEMBER 1969. CONCENTRATION GROUND WATER CR-51 HANFORD PROJECT NITRATE IONS RU-106

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

SABI VALLEY

06265 GROUNDWATER STUDIES IN THE SABI VALLEY, RHODESIA, USING NATURAL TRITIUM MEASUREMENTS. GROUND WATER RADIOACTIVE AGE DETERMINATION TRACERS MOVEMENT SABI VALLEY RHODESIA

SAFETY

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS AND THEIR BIOLOGICAL SIGNIFICANCE. CONTAMINATION RADIOACTIVITY FALLOUT DOSE RATES SAFETY MAN RADIATION EXPOSURE FRESH WATER

06368 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. BODY BURDEN SAFETY RADIATION EXPOSURE DOSE RATES WASHOUT TRITIATED WATER KR-85

06398 HYDROLOGIC CONSIDERATIONS. HYDROLOGY SAFETY EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION RADIOACTIVE WASTE DISPOSAL GROUND WATER MOVEMENT PROJECT GNOME NEVADA TEST SITE FLOWSHARE PROGRAM

06399 GROUND WATER CONTAMINATION PREDICTIONS. CONTAMINATION SAFETY NUCLEAR EXPLOSIONS EXPLOSIONS FISSION PRODUCTS RADIOACTIVE WASTE DISPOSAL GROUND WATER CONCENTRATION

06423 ACTIVITIES OF AECL IN THE FIELDS OF BIOLOGY, HEALTH PHYSICS AND MEDICINE. MEDICINE BIOLOGY DOSIMETRY ENVIRONMENTAL RADIATION RADIATION SAFETY

06426 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS FLOWSHARE PROGRAM KR-85 XE-133 AR-37 C-14 VEGETATION PROJECT RULISON

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. MEDICINE SAFETY CONTAMINATION BIOASSAY ENVIRONMENTAL RADIATION RADIATION CLOTHING RADIOLOGICAL HAZARDS DECONTAMINATION MONITORING

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING URINE TRITIATED WATER SAFETY TRITIATED WATER VAPOR CHALK RIVER

06486 TRITIUM AND ITS COMPOUNDS. CHEMICAL REACTIONS CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS SAFETY RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS ANALYSIS PHYSICAL PROPERTIES

06599 TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER. OXIDES HAZARDS WHOLE BODY EXPOSURE ABSORPTION RADIATION EXPOSURE MAXIMUM PERMISSIBLE CONCENTRATION SAFETY TRITIUM OXIDE EXCRETION

SALINITY

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

SALIVA

07165 SALIVA-SERUM RATIOS OF TRITIUM AFTER THE ADMINISTRATION OF TRITIATED WATER. TRITIATED WATER CONCENTRATION SALIVA SERUM MAN

SALMON FRY

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES BODY WATER SNAILS GASTROPODS AQUATIC LIFE MOLLUSKS ABSORPTION FISH RETENTION TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

SALSOLA

06239 RESIDUAL TRITIUM AT SEDAN CRATER.

PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITAS FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

SALT MEDIUM

06887 PROJECT GNOME, ISOTOPE PROGRAM; FINAL REPORT. TRITIATED WATER PROJECT GNOME SALT MEDIUM FISSION PRODUCTS FRACTIONATION UNDERGROUND NUCLEAR EXPLOSIONS

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPE PRODUCTION TRITIATED WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

07066 PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT; 1. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN-WATER SYSTEM. NUCLEAR EXPLOSIONS EXPLOSIONS SALT MEDIUM ISOTOPE EXCHANGE EXCHANGE RATE DEUTERIUM WATER

SALT WATER

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON HILDA 1964 AND BETSY 1965. DESTRUCTIVE FACTORS WATER VAPOR SEA WATER SALT WATER STORMS HURRICANES GASES CONCENTRATION

06236 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

SAMPLING

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. SR-90 DISTRIBUTION DEPOSITION FALLOUT SAMPLING ATMOSPHERE (TERRESTRIAL) HTO/SR-90 RATIO

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

04086 TRITIUM IN SURFACE WATERS, 1964-1965. SURFACE WATERS CONCENTRATION UNITED STATES SAMPLING

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

06213 OXYGEN-18 ET TRITIUM DANS LE BASSIN DEVIAN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). O-18 HYDRODYNAMICS FRANCE SAMPLING WATER TABLE HYDROLOGY TRACERS

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES EFFECTUEES AU CENTRE DETUDES NUCLEAIRES DE GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE NUCLEAR RESEARCH CENTRE). HYDROLOGY SAMPLING FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL) KARST CONCENTRATION TRACERS HYDROGEOLOGY

06463 TRITIUM IN SURFACE WATERS OF THE UNITED STATES, 1966. SURFACE WATERS ANALYSIS BODY BURDEN MEDICINE MEASUREMENT SAMPLING

06464 TRITIATED MOISTURE IN THE ATMOSPHERE
SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT.
NUCLEAR FUEL PLANTS ATMOSPHERE (TERRESTRIAL)
MOISTURE SAMPLING TRITIATED WATER VAPOR

06465 TRITIUM IN SURFACE WATER NETWORK,
JANUARY-JUNE 1969. SURFACE WATERS CLINCH RIVER
RIVERS POLLUTION WATER POLLUTION
NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06466 TRITIUM IN SURFACE WATER NETWORK, 1967.
SURFACE WATERS RIVERS SAVANNAH RIVER POLLUTION
WATER POLLUTION NUCLEAR FUEL PLANTS
CONTAMINATION SAMPLING

06471 TRITIUM IN SURFACE WATER NETWORK,
JANUARY-JUNE 1969. SAMPLING SURFACE WATERS
CLINCH RIVER RIVERS WATER POLLUTION POLLUTION
NUCLEAR FUEL PLANTS

06475 TRITIUM IN NEW YORK STATE WATERS, 1965.
NEW YORK RIVERS LAKES SAMPLING CONCENTRATION
GROUND WATER

06476 TRITIUM IN SURFACE WATER NETWORK,
JULY-DECEMBER 1968. SURFACE WATERS
SAVANNAH RIVER RIVERS SAMPLING CONCENTRATION
NUCLEAR FUEL PLANTS

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR
PROJECT SCHOONER. NUCLEAR EXPLOSIONS
DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS
FALLOUT COWS LIVESTOCK MAMMALS SAMPLING
INGESTION INHALATION PROJECT SCHOONER
RESIDENCE TIME NUCLEAR CRATERS PLOWSHARE PROGRAM
SOILS

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN
ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS
SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS
RAINFALL PRECIPITATION (METEOROLOGICAL)
AIRBORNE CONTAMINATION CHEMICAL COMPOSITION
RADIOACTIVITY

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN
THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING
ENVIRONMENTAL RADIATION RADIATION
PRECIPITATION (METEOROLOGICAL) GROUND WATER
SAMPLING METEOROLOGY C-14 SI-32

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION
PRODUCTS. FALLOUT C-14
ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE
NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY
BETA RADIATION GAMMA RADIATION

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF
THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF
NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING
ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE
QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS
PRECIPITATION (METEOROLOGICAL)
SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS
LATITUDE NUCLEAR TESTING SURFACE WATERS
GROUND WATER

06981 TRITIUM IN COMMUNITY WATER SUPPLIES, 1969.
CONCENTRATION COMMUNITY WATER SUPPLIES
RADIATION DOSE GROUND WATER SURFACE WATERS
UNITED STATES SAMPLING

06982 TRITIUM IN SURFACE WATER NETWORK,
JULY-DECEMBER 1969. SURFACE WATERS
RADIATION EXPOSURE CONCENTRATION SAMPLING
UNITED STATES

06983 TRITIUM IN SURFACE WATER NETWORK,
JANUARY-JUNE 1970. CONCENTRATION
SURFACE WATERS RADIATION DOSE SAMPLING
UNITED STATES

06985 TRITIUM IN STREAMS IN THE UNITED STATES,
1961-1968. STREAMS CONCENTRATION UNITED STATES
ALASKA SAMPLING STREAM DISCHARGE
SAMPLING NETWORKS

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN
1962 AND 1963. RAINOUT WASHOUT
SEASONAL VARIATIONS PERIODIC VARIATIONS
DISTRIBUTION UNITED STATES CONCENTRATION
PRECIPITATION (METEOROLOGICAL) SAMPLING
SAMPLING NETWORKS ALASKA PUERTO RICO

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING
1966, 1967, AND 1968. RAINOUT FALLOUT
PRECIPITATION (METEOROLOGICAL) CONCENTRATION
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
DISTRIBUTION RAINFALL SAMPLING
SAMPLING NETWORKS

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT

SYSTEM. SAMPLING TRITIATED WATER
SPECIFIC ACTIVITIES SEA WATER SALINITY
TEMPERATURE THERMOCLINE MIXING TRANSPORT
ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS
EQUATORIAL CURRENTS

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR
POWERPLANTS. NUCLEAR REACTORS REACTORS
NUCLEAR POWER WASTES RADIOACTIVE WASTES
SURFACE WATERS CONCENTRATION SAMPLING
TRITIATED WATER

07115 THE USE OF WATER AS A SAMPLING MEDIUM FOR
TRITIUM OXIDE. BETA RADIATION HANFORD PROJECT
ENVIRONMENTAL MONITORING OXIDES SAMPLING
TRITIUM OXIDE CONTAMINATION

SAMPLING NETWORKS

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968.
BODY BURDEN BODY WATER DOSE EQUIVALENTS
CHILDREN URINE CONCENTRATION SAMPLING NETWORKS
DIETS UNITED STATES

06985 TRITIUM IN STREAMS IN THE UNITED STATES,
1961-1968. STREAMS CONCENTRATION UNITED STATES
ALASKA SAMPLING STREAM DISCHARGE
SAMPLING NETWORKS

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN
1962 AND 1963. RAINOUT WASHOUT
SEASONAL VARIATIONS PERIODIC VARIATIONS
DISTRIBUTION UNITED STATES CONCENTRATION
PRECIPITATION (METEOROLOGICAL) SAMPLING
SAMPLING NETWORKS ALASKA PUERTO RICO

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING
1966, 1967, AND 1968. RAINOUT FALLOUT
PRECIPITATION (METEOROLOGICAL) CONCENTRATION
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
DISTRIBUTION RAINFALL SAMPLING
SAMPLING NETWORKS

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL
SAFETY REPORT QB-2R PHASE I PROGRAM. WATER
VEGETATION SOILS CONCENTRATION
ATMOSPHERE (TERRESTRIAL) PROJECT GASBUGGY
SAMPLING NETWORKS PLOWSHARE PROGRAM

SAN ONOPRE REACTOR

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER
REACTOR. LI-7 NUCLEAR REACTORS
COOLANT ADDITIVES B-10 SAN ONOPRE REACTOR
SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR
COMPUTER PROGRAMS

SAND

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION
PRODUCT SOLUTIONS INCORPORATED INTO GLASS.
RADIOACTIVE WASTE DISPOSAL GLASS LEACHING SR-90
CS-137 SOILS SAND GROUND WATER

SANDSTONE

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES
THROUGH SATURATED POROUS MEDIA. CA-45 SR-89
WATER FLOW RADIAL FLOW VELOCITY
COMPLEX POTENTIAL FUNCTION STREAM FUNCTION
DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS
COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH
MOVEMENT SANDSTONE MATHEMATICAL MODELS

SARGASSO SEA

07035 GENERAL SUMMARY OF PROGRESS (ON
OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS
SARGASSO SEA OCEANS SR-90 FALLOUT
ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION
DEPTH ACTIVATION ANALYSIS

SAUDI ARABIA

06993 THE EFFECT OF TRITIATED THYMIDINE ON
MORTALITY AND TUMOR INCIDENCE IN MICE.
TRITIATED THYMIDINE TRITIATED COMPOUNDS
RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA
MICE RODENTS MAMMALS 06994 DATING DESERT GROUND
WATER. C-14 RAINFALL
PRECIPITATION (METEOROLOGICAL)
RADIOACTIVE AGE DETERMINATION GROUND WATER
DESERTS SAUDI ARABIA

SAVANNAH RIVER

06466 TRITIUM IN SURFACE WATER NETWORK, 1967.
SURFACE WATERS RIVERS SAVANNAH RIVER POLLUTION
WATER POLLUTION NUCLEAR FUEL PLANTS
CONTAMINATION SAMPLING

06476 TRITIUM IN SURFACE WATER NETWORK,
JULY-DECEMBER 1968. SURFACE WATERS
SAVANNAH RIVER RIVERS SAMPLING CONCENTRATION
NUCLEAR FUEL PLANTS

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMI-ANNUAL REPORT,
JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL)
SAVANNAH RIVER RIVERS BACKGROUND RADIATION
FALLOUT ENVIRONMENTAL RADIATION RADIATION
VEGETATION MILK DAIRY PRODUCTS FOODS NP-239
I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106
ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51
S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMI-ANNUAL REPORT,
JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING
ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER
MILK RADIOACTIVE WASTES CONTAMINATION RADIATION
FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT
ALGAE SR-90 BETA RADIATION

SAVANNAH RIVER PLANT

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF
TRITIUM. BIOLOGICAL HALF-LIFE
RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN
AGE TEMPERATURE WATER HALF-LIFE ANALYSIS
SAVANNAH RIVER PLANT

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMI-ANNUAL REPT.
JULY-DECEMBER 1968. SAVANNAH RIVER PLANT
ENVIRONMENTAL RADIATION VEGETATION FRESH WATER
RADIATION ALGAE FISH MONITORING
GAMMA RADIATION FALLOUT NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103
RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140
ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65
MN-54 MAXIMUM PERMISSIBLE CONCENTRATION
ATMOSPHERE (TERRESTRIAL)

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL
ELEMENTS AS A GROUND-WATER TRACER.
RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES
WASTE DISPOSAL WASTES MOVEMENT GROUND WATER
TRACERS STREAMS SAVANNAH RIVER PLANT

06493 ASSESSMENT OF TRITIUM IN PRODUCTION
WORKERS. SCINTILLATION COUNTING
RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS
BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS
URINE ANALYSIS SAVANNAH RIVER PLANT

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW
AT THE SAVANNAH RIVER PLANT. GROUND WATER
SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS
RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT
TRACERS TRITIATED WATER MOVEMENT
RADIOACTIVE WASTES

06628 REMOTE TRITIUM AIR MONITORING SYSTEM.
WHOLE BODY EXPOSURE RADIATION EXPOSURE
SAVANNAH RIVER PLANT HAZARDS ABSORPTION
CLOTHING TRITIUM OXIDE ENVIRONMENTAL MONITORING

06631 ASSESSMENT OF TRITIUM IN MAN.
SAVANNAH RIVER PLANT ABSORPTION
CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS
MODELS URINE ANALYSIS BODY WATER MAN

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMI-ANNUAL REPORT,
JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT
ENVIRONMENTAL RADIATION FOODS VEGETATION
FRESH WATER ALGAE FISH GAMMA RADIATION
CONCENTRATION TRITIUM OXIDE
ATMOSPHERE (TERRESTRIAL) BETA RADIATION
MAXIMUM PERMISSIBLE CONCENTRATION

06826 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMI-ANNUAL REPORT,
JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT
VEGETATION MILK FOODS WATER BETA RADIATION
RADIATION GAMMA RADIATION ALPHA RADIATION
ENVIRONMENTAL MONITORING

06853 RADIONUCLIDES IN GROUNDWATER AT THE
SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES.
SR-90 SR-89 CE-141 CE-144 CS-137 RU-103
RU-106 ZR-CB-95 RADIOACTIVE WASTES
SAVANNAH RIVER PLANT GROUND WATER MIGRATION
SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY; SEMI-ANNUAL REPORT,
JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING
ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER
MILK RADIOACTIVE WASTES CONTAMINATION RADIATION

FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT
ALGAE SR-90 BETA RADIATION

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON
ENVIRONMENTAL RADIOACTIVITY. SEMI-ANNUAL REPORT,
JULY THROUGH DECEMBER 1969. RADIOACTIVITY
TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL)
WATER VEGETATION FISH MILK GAMMA RADIATION
CS-137 CS-134 CE-141 CE-144 RU-103 RU-106
ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239
MONITORING SAVANNAH RIVER PLANT

SAWMILL CREEK

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE
NATIONAL LABORATORY; REPORT FOR 1964.
ENVIRONMENTAL MONITORING
ARGONNE NATIONAL LABORATORY RADIOACTIVITY
AIR MONITORING MONITORING CONTAMINATION
SAWMILL CREEK DES PLAINES RIVER RIVERS
RADIOACTIVE WASTES SR-90 TRITIATED WATER
ALPHA RADIATION BETA RADIATION SR-89 BA-140
CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM
SURFACE WATERS VEGETATION SOILS

SB-122

06487 EVALUATION OF RADIOLOGICAL CONDITIONS IN
VICINITY OF HANFORD, JANUARY-JUNE, 1968.
ENVIRONMENTAL RADIATION
MAXIMUM PERMISSIBLE CONCENTRATION P-32
DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER
GROUND WATER FALLOUT FISH MILK P-32 SC-46
CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24
CU-64 AS-76 SB-122 MAN ORGANS

SB-125

06682 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH
31, 1968. FLOWSHARE PROGRAM RU-106 SB-125
CS-137 RADIATION TRITIATED WATER CANE
GREEN RIVER RIVERS GAMMA RADIATION
CONTAMINATION OIL SHALE

06688 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY;
FINAL REPORT. PROJECT SHOAL
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
CONTAMINATION GROUND WATER CE-144 PH-147
RU-106 CS-137 PE-55 SR-90 SB-125 BU-155
SM-151 CD-113 GD-153 TRANSPORT MOVEMENT
HYDROLOGY GRANITE IGNEOUS ROCK ROCK

SCANDINAVIA

06193 C-14 OCH TRITIUM ISOTOPERNAS POBREKOMST
OEVER SKANDINAVIEN UNDER SENARA AR MED
TILLAMPNING INOM MARKLAERA OCH HYDROLOGI (THE
OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT
SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND
HYDROLOGY). C-14 SCANDINAVIA HYDROLOGY
FALLOUT SURFACE WATERS GROUND WATER MONITORING

SCAVENGING

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO
3. RAINFALL PRECIPITATION (METEOROLOGICAL)
DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS
RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS
STORMS CIRCULATION

SCINTILLATION COUNTERS

06255 THE MEASUREMENT OF TRITIUM ACTIVITY IN
NATURAL WATERS I. TECHNIQUES.
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
GROUND WATER T/H RATIO EQUIPMENT INSTRUMENTS

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH
PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN
BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT
IONIZATION CHAMBER SCINTILLATION COUNTERS
PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06418 PERFORMANCE OF AN AUTOMATIC ANALYSER FOR
TRITIUM IN URINE. SCINTILLATION COUNTERS
RADIATION EXPOSURE WHOLE BODY EXPOSURE EQUIPMENT
INSTRUMENTS URINE

06815 LE TRITIUM ATMOSPHERIQUE; MESURE ET
APPLICATIONS (ATMOSPHERIC TRITIUM; MEASUREMENT AND
APPLICATION). ELECTROLYSIS ENRICHMENT
THERMAL DIFFUSION GAS COUNTERS
SCINTILLATION COUNTERS HYDROLOGY

07114 HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM.
BIBLIOGRAPHY HEALTH HAZARDS
ENVIRONMENTAL MONITORING DOSIMETRY
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
RADIATION EXPOSURE PHYSIOLOGY

SCINTILLATION COUNTING

06401 SIMPLIFIED SOLID-STATE SCINTILLATION COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN BIOLOGICAL AND ORGANIC MATERIALS. C-14 CL-36 RADIOCHEMICAL ANALYSIS ANALYSIS SCINTILLATION COUNTING TRITIATED COMPOUNDS

06439 MEASUREMENT OF TRITIUM SURFACE CONTAMINATION. OXIDES SCINTILLATION COUNTING CONTAMINATION MEASUREMENT

06458 LOW-LEVEL COUNTING BY LIQUID SCINTILLATION 1 TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS

06483 DETERMINATION OF TRITIUM IN WATER AND URINE. ELECTROLYSIS SCINTILLATION COUNTING CHEMICAL ANALYSIS ANALYSIS URINE WATER URINE ANALYSIS

06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS URINE ANALYSIS SAVANNAH RIVER PLANT

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. SCINTILLATION COUNTING EQUIPMENT ANALYSIS RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS CHEMISTRY BIOASSAY

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. CONTAMINATION RADIOACTIVE TRACERS TRACERS STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS TRITIATED WATER ATMOSPHERE (TERRESTRIAL) DISTILLATION SCINTILLATION COUNTING

SC-46

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER FALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

SC-48

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TB-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

SEA WATER

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH PORAGE LEAVES RADIATION ROOTS DISTS CALCIUM ENVIRONMENTS FOODS CALCIUM

04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE SEDIMENTS AND MARINE ORGANISMS. SEA WATER SEDIMENTS MARINE BIOLOGY HALF-LIFE DISTRIBUTION CONCENTRATION RADIOACTIVITY ENVIRONMENTS

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON HILDA 1964 AND BETSY 1965. DESTRUCTIVE FACTORS WATER VAPOR SEA WATER SALT WATER STORMS HURRICANES GASES CONCENTRATION

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL

CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06382 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. SEA WATER NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT COLOMBIA GULF OF SAN MIGUEL ISOTOPE EXCHANGE SPECIFIC ACTIVITIES

06397 TRITIUM IN NATURE. COSMIC RADIATION PRECIPITATION (METEOROLOGICAL) WATER LAKES OCEANS RIVERS SURFACE WATERS PRODUCTION RATE WINES SEA WATER

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM II. DISTRIBUTION COSMIC RADIATION SURFACE WATERS RADIATION RAINFALL PRECIPITATION (METEOROLOGICAL) TRITIATED WATER SEA WATER FRESH WATER WINES

06788 TRITIUM TRACER IN ARCTIC PROBLEMS. TRACERS SEA WATER ICE OCEANS ARCTIC OCEAN MIXING EXCHANGE CONCENTRATION

06796 RATE OF RADIOACTIVE CONTAMINANTS IN WATER. PROGRESS REPORT NO 2, FOR THE PERIOD MAY 1, 1958 TO JUNE 30, 1959. CHEMICAL EFFECTS BIOLOGICAL EFFECTS ESTUARINE ENVIRONMENTS MARINE ENVIRONMENT SEA WATER

06890 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL) SEA WATER SWEDEN NORWAY IRELAND ICELAND BACKGROUND RADIATION DISTRIBUTION RADIATION ENVIRONMENTAL RADIATION

06895 NATURAL TRITIUM. BACKGROUND RADIATION ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) SEA WATER ENVIRONMENTAL RADIATION RADIATION COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

06902 TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN WATER - INSTRUMENTATION. ENVIRONMENTS RAINWATER SEA WATER SURFACE WATERS GROUND WATER HAWAII

06964 THE DETERMINATION OF TRITIUM IN NATURAL WATERS. RAINWATER SEA WATER SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING CANADA WASHOUT

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

07016 HURRICANE TRITIUM III; EVAPORATION OF SEA WATER IN HURRICANE PAITH 1966. TRITIATED WATER HURRICANES DESTRUCTIVE FACTORS EVAPORATION SEA WATER RADIAL DISTRIBUTION RAINFALL DISTRIBUTION EQUATIONS METEOROLOGY

07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS SARGASSO SEA OCEANS SR-90 FALLOUT ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION DEPTH ACTIVATION ANALYSIS

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW
EVENT. MILROW RADIOACTIVITY GROUND WATER
CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION
ALASKA ALBUQUERQUE ISLANDS ANCHITKA ISLAND
TSUNAMIS BIOLOGICAL EFFECTS
UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK
WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES
NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

SEASONAL VARIATIONS

05164 . THE MEASUREMENT OF TRITIUM ACTIVITY IN
NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL
FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA
DEPOSITION EVAPORATION
PRECIPITATION (METEOROLOGICAL) RAINFALL
DISTRIBUTION METEOROLOGICAL MODELS
SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90
FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90
FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE
SEASONAL VARIATIONS PERIODIC VARIATIONS
STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06206 UNITED STATES TRITIUM RAINOUT AND ITS
HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT
RAINFALL UNITED STATES ALASKA
PRECIPITATION (METEOROLOGICAL) PUERTO RICO
HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS
PERIODIC VARIATIONS

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE
SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM
ACTIVITY IN THE SOUTHWEST OF FRANCE). RAINWATER
FRANCE GROUND WATER LAKES SEASONAL VARIATIONS
PERIODIC VARIATIONS

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT
OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA.
SEASONAL VARIATIONS PERIODIC VARIATIONS
PRECIPITATION (METEOROLOGICAL) GROUND WATER
AUSTRIA KARST MIXING MODELS SURFACE WATERS
CONCENTRATION

06233 WATER TRACING IN THE HYDROLOGIC CYCLE.
O-18 C-14 TRACERS TRANSPORT ASIA
HYDROLOGICAL CYCLING MOVEMENT CIRCULATION
DISTRIBUTION FALLOUT GROUND WATER
EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS PERIODIC VARIATIONS
NORTH AMERICA SOUTH AMERICA EUROPE
MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS
DEUTERIUM

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II
SOIL AND EJECTA STUDIES.
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS SOIL MOISTURE
PERIODIC VARIATIONS SEDAN SOILS EJECTA
RAINFALL DEPTH FLOWSHARE PROGRAM
NEVADA TEST SITE

06313 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968,
BIOLOGY AND HEALTH PHYSICS DIVISION.
ATMOSPHERE (TERRESTRIAL) CANADA RIVERS
GROWTH RINGS SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS DEPOSITION STRATOSPHERE
TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06676 TRITIUM CONCENTRATION IN PRECIPITATION,
1967-1968. ENVIRONMENTS ALTITUDE
SEASONAL VARIATIONS HYDROLOGICAL CYCLING
PRECIPITATION (METEOROLOGICAL) RAINFALL
CONCENTRATION

06685 TRITIUM IN SOUTHERN HEMISPHERE
PRECIPITATION 1953-1964. TRITIATED WATER
SOUTHERN HEMISPHERE FALLOUT TROPOSPHERE
STRATOSPHERE PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS

06697 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL
PROGRESS REPORT NO. 3. EXCHANGE MIXING
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
TROPOSPHERE WATER VAPOR TRANSPORT MODELS
METEOROLOGY RESIDENCE TIME RAINFALL
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR
SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN
FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY
SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN
FRANCE). ATMOSPHERE (TERRESTRIAL)
LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS
RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS
PERIODIC VARIATIONS

06965 SEASONAL VARIATIONS OF BOMB-PRODUCED
TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS
RAINWATER GERMANY CONCENTRATION RAINOUT
WASHOUT ATMOSPHERE (TERRESTRIAL)
PERIODIC VARIATIONS
PRECIPITATION (METEOROLOGICAL)

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER
ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL
ALTITUDES. TRITIATED WATER ICE
SEASONAL VARIATIONS SNOW CONCENTRATION
DEPOSITION MT. EVEREST
RADIOACTIVE AGE DETERMINATION

06992 EFFECT OF SEASON AND TEMPERATURE ON
PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE.
(VLIYANIE VREMENI I TEMPERATURY NA VSASYVANIE
OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE
TRITIATED WATER ABSORPTION SEASONAL VARIATIONS
PERIODIC VARIATIONS AIR TEMPERATURE SKIN
PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN
1962 AND 1963. RAINOUT WASHOUT
SEASONAL VARIATIONS PERIODIC VARIATIONS
DISTRIBUTION UNITED STATES CONCENTRATION
PRECIPITATION (METEOROLOGICAL) SAMPLING
SAMPLING NETWORKS ALASKA PUERTO RICO

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM
DANS LES EAUX DE PRECIPITATION EN FRANCE.
(EVOLUTION OF THE TRITIUM CONCENTRATION IN
PRECIPITATION IN FRANCE.) CONCENTRATION
PRECIPITATION (METEOROLOGICAL) FRANCE
SEASONAL VARIATIONS PERIODIC VARIATIONS
TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE
STRATOSPHERE SR-90

07032 PREMIERS RESULTATS SUR LA TENEUR EN TRITIUM
DES EAUX DU LAC LEMAN. (PRIMARY RESULTS OF THE
TRITIUM CONTENT OF THE WATER OF LAKE LEMAN.)
CONCENTRATION LAKE GENEVA LAKES
SEASONAL VARIATIONS PERIODIC VARIATIONS

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN
CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA
SURFACE WATERS PRECIPITATION (METEOROLOGICAL)
HYDROLOGICAL CYCLING CONCENTRATION
SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS
ALASKA GREENLAND

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER
SAMPLES FROM SWITZERLAND. O-18 ALPS
CONCENTRATION SPRINGS SEASONAL VARIATIONS
RECHARGE GROUND WATER
PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

SEA-LEVEL CANAL

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN
ORGANS HALF-LIFE FOOD-CHAINS
BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL
DOSE ESTIMATION MODELS CONTAMINATION
ENVIRONMENTS TRANSFER COMPARTMENTS
SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND
INGESTION COMPUTER PROGRAM

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY
FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC
CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES
AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN
PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS
PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL
COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA
SOIL DENSITY NUCLEAR EXCAVATION

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES; PHASE III.
PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION
EXTERNAL DOSE INTERNAL DOSE INREM EXREM
RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS
ORGANS SKIN INGESTION NUCLEAR EXCAVATION
SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI)
SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO)
COMPUTER MODELS

SEDAN

06239 RESIDUAL TRITIUM AT SEDAN CRATER.
PRECIPITATION (METEOROLOGICAL) TRANSPIRATION
RADIATION EXPOSURE BODY WATER PLANTS
BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS
MAMMALS RODENTS SOILS THROWOUT
NUCLEAR EXPLOSIONS SEDAN RATS RODENTS
NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS
FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART 11
SOIL AND EJECTA STUDIES.
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS SOIL MOISTURE
PERIODIC VARIATIONS SEDAN SOILS EJECTA
RAINFALL DEPTH PLOWSHARE PROGRAM
NEVADA TEST SITE

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER.
LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE
DISTRIBUTION RAINFALL DEPTH EJECTA
PRECIPITATION (METEOROLOGICAL)
VERTICAL DISTRIBUTION PLOWSHARE PROGRAM
NEVADA TEST SITE

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN
FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER.
FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES
MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185
W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER
NUCLEAR CRATERS

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES
PRODUCED IN PLOWSHARE EVENTS. PLOWSHARE PROGRAM
SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS
EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO
RATS LIVING AT SEDAN CRATER. LIVER
NUCLEIC ACIDS DNA RATS MAMMALS RODENTS SEDAN
BIOCHEMISTRY RADIATION EFFECTS NUCLEAR CRATERS
RADIATION EXPOSURE PLOWSHARE PROGRAM
NEVADA TEST SITE KANGAROO RATS

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS.
NUCLEAR CRATERS CONTAMINATION TRITIATED WATER
SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN
PLOWSHARE PROGRAM NEVADA TEST SITE

06935 RESULTS FROM SEDAN POSTSHOT DRILLING.
SEDAN UNDERGROUND NUCLEAR EXPLOSIONS
NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION
RADIATION NEVADA TEST SITE NUCLEAR CRATERS
PLOWSHARE PROGRAM

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON
AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS
CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS
ACCUMULATION ECOSYSTEMS 06991 TRITIUM
DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN
SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME
SEDAN PLOWSHARE PROGRAM NUCLEAR CRATERS
CONCENTRATION SOILS DEPTH

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO
RATS LIVING IN A TRITIATED ENVIRONMENT.
KANGAROO RATS RATS RODENTS MAMMALS
RADIATION EXPOSURE BODY WATER TISSUES
SPECIFIC ACTIVITIES RADIATION DOSE
NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM
CONCENTRATION BIOLOGY DNA HABITATS

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR
TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN
PLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION
SOIL PROFILES VEGETABLES CORN RADISHES
POTATOES BEANS MELONS ONIONS
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF
RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181
DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER
NUCLEAR CRATERS NUCLEAR TESTING EJECTA
CONCENTRATION RAINFALL SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54
NB-95 CO-58 Y-88

SEDIMENTARY ROCK

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER
31, 1969. CANE SHALE SEDIMENTARY ROCK ROCK
CONTAMINATION TRITIATED METHANE TRITIATED ETHANE
PLOWSHARE PROGRAM

07084 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH
31, 1969. CONTAMINATION SHALE ROCK
SEDIMENTARY ROCK CANE PLOWSHARE PROGRAM

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER
31, 1969. SHALE CANE RETENTION PENETRATION
EXTRACTION PLOWSHARE PROGRAM SEDIMENTARY ROCK
ROCK CONTAMINATION

SEDIMENTS

04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE
SEDIMENTS AND MARINE ORGANISMS. SEA WATER
SEDIMENTS MARINE BIOLOGY HALF-LIFE DISTRIBUTION
CONCENTRATION RADIOACTIVITY ENVIRONMENTS

06238 FRACTIONATION OF TRITIUM AND DEUTERIUM IN
SOIL WATER. FRACTIONATION SOIL MOISTURE
DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION
TRACERS GROUND WATER SURFACE WATERS CLAYS
SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE
ISOTOPE EXCHANGE MONTMORILLONITE

06274 SELF-DIFFUSION OF TRITIATED WATER IN
MONTMORILLONITE AND KAOLINITE CLAY. DIFFUSION
MONTMORILLONITE KAOLINITE TRACERS CLAYS
SEDIMENTS SOILS DIFFUSION COEFFICIENT
TRITIATED WATER

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES
THROUGH SEDIMENTS UNDERLYING THE HANFORD
RESERVATION. HANFORD PROJECT WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION
SR-90 RU-106 CONTAMINATION GROUND WATER TC-99
RADIOACTIVE DECAY CS-137 LEACHING

06937 WEST VALLEY REPROCESSING PLANT
ENVIRONMENTAL MONITORING SURVEY. SR-90
ALPHA RADIATION BETA RADIATION RADIATION
GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS
WATER FOODS DAIRY PRODUCTS
ENVIRONMENTAL MONITORING

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT.
FALLOUT CRATER LAKE LAKES SR-90 CS-137
TEMPERATURE PROFILES CONCENTRATION SOILS
SEDIMENTS

07035 GENERAL SUMMARY OF PROGRESS (ON
OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS
SARGASSO SEA OCEANS SR-90 FALLOUT
ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION
DEPTH ACTIVATION ANALYSIS

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY.
STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK
CONCENTRATION SEDIMENTS DISTRIBUTION
RADIOACTIVE WASTES WASTES CONTAMINATION
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
SURFACE SEEPAGE

07163 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL
REPORT. RADIOACTIVITY SR-90 CONCENTRATION
Y-90 CS-137 K-40 RA-226 AZ-85 FALLOUT
NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING
LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS
BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON
CHEMICAL WASTES RADIOACTIVE WASTES

SEEDLINGS

06928 PROGRESS REPORT (ON THE USE OF TRITIATED
THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN
THE STUDY OF LATERAL ROOT INITIATION), 1965-1966.
TRITIATED THYMIDINE TRITIATED WATER ROOTS
SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES
RADIATION EFFECTS

SEEPAGE

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW
EVENT. MILROW RADIOACTIVITY GROUND WATER
CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION
ALASKA ALUTIAN ISLANDS ANCHITKA ISLAND
TSUNAMIS BIOLOGICAL EFFECTS
UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK
WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES
NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

SEEPAGE BASIN

06853 RADIONUCLIDES IN GROUNDWATER AT THE
SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES.
SR-90 SR-89 CE-141 CE-144 CS-137 RU-103
RU-106 ZR-CB-95 RADIOACTIVE WASTES
SAVANNAH RIVER PLANT GROUND WATER MIGRATION
SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

SEISMIC REACTION PROFILES

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT
SITE, ANCHITKA ISLAND, ALASKA. HYDROLOGY
GEOLOGY LONG SHOT ANCHITKA ISLAND ALASKA
EXPLOSIONS ALUTIAN ISLANDS
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
SURFACE WATERS CONTAMINATION STRATIGRAPHY
PETROGRAPHY SEISMIC REACTION PROFILES
TRANSPORT TRITIATED WATER GROUND WATER

SEISMICITY

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALEUTIAN ISLANDS ANCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

SEPARATION FACTOR

06355 SEPARATION FACTOR OF TRITIATED WATER FRACTIONAL IN DISTILLATION. SEPARATION FACTOR SEPARATION TECHNIQUES TRITIATED WATER DISTILLATION

SEPARATION TECHNIQUES

06355 SEPARATION FACTOR OF TRITIATED WATER FRACTIONAL IN DISTILLATION. SEPARATION FACTOR SEPARATION TECHNIQUES TRITIATED WATER DISTILLATION

SERUM

07165 SALIVA-SERUM RATIOS OF TRITIUM AFTER THE ADMINISTRATION OF TRITIATED WATER. TRITIATED WATER CONCENTRATION SALIVA SERUM MAN

SHALE

06899 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1968. TRITIATED WATER SHALE DISTRIBUTION THERMAL ANALYSIS CANE FLOWSHARE PROGRAM CONTAMINATION OIL SHALE

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1969. FLOWSHARE PROGRAM TRITIATED WATER SHALE DISTRIBUTION CANE THERMAL ANALYSIS NATURAL GAS HYDROGEN CONTAMINATION

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1969. CANE SHALE SEDIMENTARY ROCK ROCK CONTAMINATION TRITIATED METHANE TRITIATED ETHANE FLOWSHARE PROGRAM

07084 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1969. CONTAMINATION SHALE ROCK SEDIMENTARY ROCK CANE FLOWSHARE PROGRAM

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968. SHALE CANE RETENTION PENETRATION EXTRACTION FLOWSHARE PROGRAM SEDIMENTARY ROCK ROCK CONTAMINATION

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. CANE TRITIATED HYDROGEN TRITIATED METHANE SHALE CONTAMINATION TRITIATED WATER NATURAL GAS FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

SHEEP

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

SHIPPINGPORT ATOMIC POWER STATION

06808 ENVIRONMENT RADIOACTIVITY AT THE SHIPPINGPORT ATOMIC POWER STATION FOR THE SECOND HALF OF 1963 AND FOR CALENDAR YEAR 1963. SHIPPINGPORT ATOMIC POWER STATION OHIO RIVER FALLOUT BETA RADIATION RADIOACTIVE WASTES

06819 SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966. OHIO RIVER SHIPPINGPORT ATOMIC POWER STATION RADIOACTIVE WASTES ENVIRONMENTAL MONITORING RADIOACTIVITY ALPHA RADIATION BETA RADIATION

SILICATES

04862 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

SILT

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DBS PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

SIMULATION

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR. LI-7 NUCLEAR REACTORS COOLANT ADDITIVES B-10 SAN ONOPRE REACTOR SIMULATION EFFLUENTS CONNECTICUT YANKEE REACTOR COMPUTER PROGRAMS

SI-31

07081 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

SI-32

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24 SI-32 P-32 P-33 S-35 S-38 CL-36 CL-38 CL-39 HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION ENVIRONMENTS

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE. HYDROLOGICAL CYCLING ENVIRONMENTAL RADIATION RADIATION PRECIPITATION (METEOROLOGICAL) GROUND WATER SAMPLING METEOROLOGY C-14 SI-32

SKIN

04893 RADIOISOTOPE ABSORPTION AND METHODS OF ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF ENTRY. ABSORPTION ELIMINATION MAN SKIN INGESTION LUNGS GASTROINTESTINAL TRACT CONTAMINATION

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS EQUIPMENT ABSORPTION SKIN PRECIPITATION (METEOROLOGICAL) MAN

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING URINE TRITIATED WATER SAFETY TRITIATED WATER VAPOR CHALK RIVER

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06605 SKIN CONTACT TRANSFER OF TRITIUM FROM BRASS. SKIN TRANSFER BRASS ABSORPTION BODY WATER URINE ANALYSIS

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

06636 HEALTH PHYSICS AND MEDICAL DIVISION, PROGRESS REPORT, JANUARY-DECEMBER, 1967. BRASS SKIN ADSORPTION TRANSFER

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER. TRITIATED WATER INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR TRITIATED WATER VAPOR SKIN

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ORGANS MICE TRITIATED WATER IRRADIATION SKIN WHOLE BODY EXPOSURE RADIATION EFFECTS

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN RESPIRATORY TRACT BODY FLUIDS TRITIATED WATER VAPOR

06836 THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS. TRITIATED WATER PATS SKIN BODY FLUIDS RETENTION SPECIFIC ACTIVITIES TISSUES BIOLOGICAL HALF-LIFE

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS WATER EXCHANGE BARRIERS WATER BALANCE LUNGS SKIN BODY WATER GASTROINTESTINAL TRACT PHYSICAL PROPERTIES

06959 A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS FROG SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER. FROGS AQUATIC LIFE PERMEABILITY COEFFICIENT TRITIATED WATER ISOTOPE EFFECT SKIN TRANSFER

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSASYVANIYE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS.

NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III. PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION EXTERNAL DOSE INTERNAL DOSE INREM EXREM RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS ORGANS SKIN INGESTION NUCLEAR EXCAVATION SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI) SR-89 MAN 1-131 ROUTE 17 (ATRATO-TRUANDO) COMPUTER MODELS

SKIN CONTAMINATION

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. TRITIATED POLYMERS LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION CONTAMINATION CONCENTRATION GRAM-LAMBERT MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

SM-151

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

SN METHOD

06849 CALCULATION OF LOW-ENERGY NEUTRON FLUX IN THE ATMOSPHERE BY THE S SUB N METHOD. C-14 NEUTRON FLUX SN METHOD COSMIC RAY NEUTRONS RADIATION ATMOSPHERE (TERRESTRIAL)

SNAILS

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES BODY WATER SNAILS GASTROPODS AQUATIC LIFE MOLLUSKS ABSORPTION FISH RETENTION TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

SNOW

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

06223 NEUBESTIMMUNG DER NATUERLICHEN IRDISCHEN TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES NATUERLICHEN TRITIUM (REDETERMINATION OF NATURAL TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE OF NATURAL TRITIUM). RADIOACTIVE DECAY COSMIC RADIATION RADIATION RESIDENCE TIME STRATOSPHERE TROPOSPHERE SNOW GREENLAND

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06269 TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. PRECIPITATION (METEOROLOGICAL) SNOW ALPINE ALPS MOUNTAINS FIRN PROFILES

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06847 TRITIUM CONTENT OF ANTARCTIC SNOW. ANTARCTIC SNOW CONCENTRATION PRECIPITATION (METEOROLOGICAL)

06672 TRITIUM CONTENT OF ANTARCTIC SNOW.
ANTARCTIC SNOW PRECIPITATION (METEOROLOGICAL)
CONCENTRATION

06964 THE DETERMINATION OF TRITIUM IN NATURAL
WATERS. RAINWATER SEA WATER SNOW
PRECIPITATION (METEOROLOGICAL) CONCENTRATION
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
CANADA WASHOUT

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER
ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL
ALTITUDES. TRITIATED WATER ICE
SEASONAL VARIATIONS SNOW CONCENTRATION
DEPOSITION MT. EVEREST
RADIOACTIVE AGE DETERMINATION

06976 TRITIUM CONTENT IN A FIRN CORE FROM
ANTARCTICA. ANTARCTIC FIRN PROFILES FALLOUT
SNOW PRECIPITATION (METEOROLOGICAL)
CONCENTRATION ACCUMULATION RATE

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION
AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES.
ELECTROLYTIC ENRICHMENT ENRICHMENT CONCENTRATION
SNOW PRECIPITATION (METEOROLOGICAL)
THERMAL DIFFUSION RECOVERY ANTARCTIC

07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM
AECL REACTOR STACK. SNOW
PRECIPITATION (METEOROLOGICAL) TRITIUM OXIDE
CANADA SPECIFIC ACTIVITIES
DILUTION RATE FACTORS NUCLEAR REACTORS

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT
GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85
PROJECT GASBUGGY FLOWSHARE PROGRAM FLARING
SOILS ENVIRONMENTAL MONITORING
ATMOSPHERE (TERRESTRIAL) SNOW
PRECIPITATION (METEOROLOGICAL) VEGETATION
CONCENTRATION

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL
SURVEILLANCE. PROJECT BUGGY I FLOWSHARE PROGRAM
NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING
CONCENTRATION SNOW I-131
PRECIPITATION (METEOROLOGICAL)
ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK
VEGETATION

07168 VARIATION OF THE TRITIUM AND OXYGEN-18
CONTENT IN PRECIPITATION AND SNOWPACK IN A
REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. O-18
CONCENTRATION PRECIPITATION (METEOROLOGICAL)
SNOWPACK CZECHOSLOVAKIA SNOW RAINFALL
WATER BALANCE

SNOWPACK

07168 VARIATION OF THE TRITIUM AND OXYGEN-18
CONTENT IN PRECIPITATION AND SNOWPACK IN A
REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. O-18
CONCENTRATION PRECIPITATION (METEOROLOGICAL)
SNOWPACK CZECHOSLOVAKIA SNOW RAINFALL
WATER BALANCE

SOIL CONTAMINATION

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE
L'ATMOSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION).
TRITIATED HYDROGEN TRITIATED METHANE
TRITIATED WATER COSMIC RADIATION RADIATION
TRACTERS SOIL CONTAMINATION NUCLEAR EXPLOSIONS

07073 CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE
RADIOLOGICAL SAFETY REPORT.
CARLSBAD ROLL-UP PROGRAM FLOWSHARE PROGRAM
CONTAMINATION SOIL CONTAMINATION DECONTAMINATION
NEW MEXICO RADIOACTIVE WASTES

SOIL DENSITY

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY
FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC
CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES
AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN
PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS
PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL
COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA
SOIL DENSITY NUCLEAR EXCAVATION

SOIL MOISTURE

06210 DATING OF GROUNDWATER WITH TRITIUM AND
C-14. RADIOACTIVE AGE DETERMINATION C-14
GROUND WATER SOIL MOISTURE MODELS

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL
FIELD STUDIES. TRITIATED WATER TRANSPIRATION
TREES PLANTS TRACTERS ABSORPTION SOIL MOISTURE
DEPTH

06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED
BY MEANS OF HYDROGEN ISOTOPES. MOVEMENT
SOIL MOISTURE TRACTERS SOILS EVAPOTRANSPIRATION
DEUTERIUM

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN
SOIL WATER. FRACTIONATION SOIL MOISTURE
DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION
TRACTERS GROUND WATER SURFACE WATERS CLAYS
SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE
ISOTOPE EXCHANGE MONTMORILLONITE

06239 RESIDUAL TRITIUM AT SEDAN CRATER.
PRECIPITATION (METEOROLOGICAL) TRANSPIRATION
RADIATION EXPOSURE BODY WATER PLANTS
BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS
MAMMALS RODENTS SOILS THROWOUT
NUCLEAR EXPLOSIONS SEDAN RATS RODENTS
NEVADA TEST SITE COMPOSITE FLOWERING PLANTS
FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II
SOIL AND EJECTA STUDIES.
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS SOIL MOISTURE
PERIODIC VARIATIONS SEDAN SOILS EJECTA
RAINFALL DEPTH FLOWSHARE PROGRAM
NEVADA TEST SITE

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER.
LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE
DISTRIBUTION RAINFALL DEPTH EJECTA
PRECIPITATION (METEOROLOGICAL)
VERTICAL DISTRIBUTION FLOWSHARE PROGRAM
NEVADA TEST SITE

06370 CONTRIBUTION OF TRITIATED WATER AT VARIOUS
DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.
SOIL MOISTURE EVAPOTRANSPIRATION TRITIATED WATER
EVAPORATION DEPTH

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968,
BIOLOGY AND HEALTH PHYSICS DIVISION.
ATMOSPHERE (TERRESTRIAL) CANADA RIVERS
GROWTH RINGS SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS DEPOSITION STRATOSPHERE
TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06815 TRACING SOIL MOISTURE AND GROUNDWATER FLOW
AT THE SAVANNAH RIVER PLANT. GROUND WATER
SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS
RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT
TRACTERS TRITIATED WATER MOVEMENT
RADIOACTIVE WASTES

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED
SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL
TRITIATED WATER SOILS RAINFALL LEACHING
SOIL MOISTURE PRECIPITATION (METEOROLOGICAL)
MATHEMATICAL MODELS DISTRIBUTION

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM.
TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT
RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS
SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS
FORESTS PUERTO RICO

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT
FY-1967. RUNOFF TRITIATED WATER EVAPORATION
SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT
RAINFORESTS FORESTS PUERTO RICO SOILS
RESIDENCE TIME

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION;
CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER.
TRACTERS SOIL MOISTURE MOVEMENT
EVAPOTRANSPIRATION RAINWATER DISPERSION
DEUTERIUM ENRICHMENT SOILS

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF
RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-161
DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER
NUCLEAR CRATERS NUCLEAR TESTING EJECTA
CONCENTRATION RAINFALL SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54
NB-95 CO-58 Y-86

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS
DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.
TRITIATED WATER TRITIATED WATER VAPOR
SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION
ATMOSPHERE (TERRESTRIAL) SOILS LOAM

SOIL MOVEMENT

06376 THE RAIN FOREST PROJECT ANNUAL REPORT.
RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO
MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES
TRITIATED WATER MODELS RESIDENCE TIME CLAYS
FORESTS TROPICS

SOIL PROFILES

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

SOILS

00036 DISTRIBUTION OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS. NUCLEAR EXPLOSIONS NUCLEAR TESTING UNDERGROUND NUCLEAR TESTING SR-90 CO-60 SOILS TRANSPORT MOVEMENT FLOWSHARE PROGRAM

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. FOODS SOILS K-40 C-14 RB-87 PB-204 FOOD-CHAINS RA-226 FRESH WATER ANALYSIS RADIOCHEMICAL ANALYSIS

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED BY MEANS OF HYDROGEN ISOTOPES. MOVEMENT SOIL MOISTURE TRACERS SOILS EVAPOTRANSPIRATION DEUTERIUM

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROUGHOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO FLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCIN I-131 CA-40 CA-45 SOILS TRANSPORT

VELOCITY TRITIATED WATER

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II SOIL AND EJECTA STUDIES. PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS SOIL MOISTURE PERIODIC VARIATIONS SEDAN SOILS EJECTA RAINFALL DEPTH FLOWSHARE PROGRAM NEVADA TEST SITE

06273 DIFFUSION OF TRITIATED WATER IN SOILS. DIFFUSION SOILS TRACERS CLAYS DIFFUSION COEFFICIENT TRITIATED WATER

06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. DIFFUSION MONTMORILLONITE KAOLINITE TRACERS CLAYS SEDIMENTS SOILS DIFFUSION COEFFICIENT TRITIATED WATER

06372 THE PATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN FLOWSHARE EVENTS. FLOWSHARE PROGRAM SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. NUCLEAR EXPLOSIONS DOMESTIC ANIMALS NUCLEAR CLOUDS EXPLOSIONS PIGS FALLOUT COWS LIVESTOCK MAMMALS SAMPLING INGESTION INHALATION PROJECT SCHOONER RESIDENCE TIME NUCLEAR CRATERS FLOWSHARE PROGRAM SOILS

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL. NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT AMINO ACIDS SOILS

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA. TRANSPORT RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIOACTIVE TRACERS TRACERS SOILS TRITIATED WATER MOVEMENT GROUND WATER

06610 TRACING GROUNDWATER WITH CHLORIDE IONS AND TRITIUM THROUGH ACID KAOLINITIC SOIL. CHLORIDES INORGANIC COMPOUNDS GROUND WATER TRACERS SOILS KAOLINITE

06611 MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND O-18 THROUGH ACIDIC KAOLINITIC SOIL. O-18 TRACERS WATER SOILS DEUTERIUM MOVEMENT

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS. RADIOACTIVE WASTE DISPOSAL GLASS LEACHING SR-90 CS-137 SOILS SAND GROUND WATER

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06646 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL TRITIATED WATER SOILS RAINFALL LEACHING SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DISTRIBUTION

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS ACCUMULATION ECOSYSTEMS 06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME SEDAN FLOWSHARE PROGRAM NUCLEAR CRATERS CONCENTRATION SOILS DEPTH

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. FALLOUT CRATER LAKE LAKES SR-90 CS-137 TEMPERATURE PROFILES CONCENTRATION SOILS SEDIMENTS

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWHILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL SAFETY REPORT QB-2R PHASE I PROGRAM. WATER VEGETATION SOILS CONCENTRATION ATMOSPHERE (TERRESTRIAL) PROJECT GASBUGGY SAMPLING NETWORKS FLOWSHARE PROGRAM

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY FLOWSHARE PROGRAM PLATING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. TRACERS SOIL MOISTURE MOVEMENT EVAPOTRANSPIRATION RAINWATER DISPERSION DEUTERIUM ENRICHMENT SOILS

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED

STEAM.) TRITIATED WATER TRITIATED WATER VAPOR DISPERSION CONTAMINATION ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS IRRADIATION MAN RADIATION DOSE RADIATION EXPOSURE INGESTION AGE FOODS

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. CONCENTRATION GROUND WATER MOVEMENT MODELS HYDROLOGIC MODELS RECHARGE CLAYS SOILS PERMEABILITY

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE. TRITIATED WATER TRITIATED WATER VAPOR SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION ATMOSPHERE (TERRESTRIAL) SOILS LOAM

07181 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING WASTE. RADIOACTIVE WASTES NUCLEAR FUEL PLANTS MOVEMENT SOILS GROUND WATER CONTAMINATION CONCENTRATION RADIOACTIVE WASTE DISPOSAL HANFORD PROJECT

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST. TRITIATED WATER MOVEMENT SOILS RAINFORESTS LITTER ROOTS RESIDENCE TIME PUERTO RICO TROPICS

SOLAR FLARES

06895 NATURAL TRITIUM. BACKGROUND RADIATION ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) SEA WATER ENVIRONMENTAL RADIATION RADIATION COSMIC RADIATION SOLAR FLARES PRODUCTION RATE

07154 THE PRODUCTION OF TRITONS AND C-14 IN THE TERRESTRIAL ATMOSPHERE BY SOLAR PROTONS. TRITON C-14 ATMOSPHERE (TERRESTRIAL) SOLAR PROTONS SOLAR FLARES PRODUCTION RATE

6840 TRITIUM AND HELIUM-3 IN SOLAR FLARES AND LOSS OF HELIUM FROM THE EARTH'S ATMOSPHERE. HE-3 SOLAR FLARES

SOLAR PROTONS

07154 THE PRODUCTION OF TRITONS AND C-14 IN THE TERRESTRIAL ATMOSPHERE BY SOLAR PROTONS. TRITON C-14 ATMOSPHERE (TERRESTRIAL) SOLAR PROTONS SOLAR FLARES PRODUCTION RATE

SOLUTION BREAK THROUGH

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

SORPTION

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

SOUTH AFRICA

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA. GROUND WATER SOUTH AFRICA AQUIFERS PRECIPITATION (METEOROLOGICAL) RECHARGE HYDROLOGICAL CYCLING CONCENTRATION

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. C-14 GROUND WATER AQUIFERS HYDROLOGY RECHARGE HYDROLOGIC MODELS MODELS SOUTH AFRICA

SOUTH AMERICA

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06711 BIOENVIRONMENTAL AND RADIOLOGICAL SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. RAINFALL HYDROLOGY MODELS PRECIPITATION (METEOROLOGICAL) SEA-LEVEL CANAL COLOMBIA PANAMA CENTRAL AMERICA SOUTH AMERICA SOIL DENSITY NUCLEAR EXCAVATION

SOUTHERN HEMISPHERE

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90 FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE SEASONAL VARIATIONS PERIODIC VARIATIONS STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06885 TRITIUM IN SOUTHERN HEMISPHERE PRECIPITATION 1953-1964. TRITIATED WATER SOUTHERN HEMISPHERE FALLOUT TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS PRECIPITATION (METEOROLOGICAL) SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS LATITUDE NUCLEAR TESTING SURFACE WATERS GROUND WATER

SOVIET NUCLEAR TESTS

06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90. SOVIET NUCLEAR TESTS TROPOSPHERIC EXCHANGE TROPOSPHERE SR-90 C-14 ATMOSPHERE (TERRESTRIAL) MIXING

SOVIET UNION

06287 THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS. PLANTS SOVIET UNION WATER VAPOR GASES PRECIPITATION (METEOROLOGICAL) LAKES RIVERS GROUND WATER CONCENTRATION

SOYBEANS

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS. C-14 SOYBEANS CROPS LEGUMES PLANTS GROWTH RADIATION EFFECTS

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES SUGARS TRITIATED WATER

07046 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLOCATION MATHEMATICAL MODELS MODELS TRACERS

SPECIFIC ACTIVITIES

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES SUGARS TRITIATED WATER

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER

NUCLEAR CRATERS

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER. PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN SURFACE WATERS RESIDENCE TIME DEPTH SPECIFIC ACTIVITIES

06361 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TB-132 SR-89 RU-106 TB-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06382 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. SEA WATER NUCLEAR EXPLOSIONS EXPLOSIONS PANAMA FALLOUT COLOMBIA GULF OF SAN MIGUEL ISOTOPES EXCHANGE SPECIFIC ACTIVITIES

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER. TRITIATED WATER INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR TRITIATED WATER VAPOR SKIN

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. TRITIUM OXIDE METABOLISM MICE RATS MAN EXCRETION SPECIFIC ACTIVITIES BIOLOGICAL HALF-LIFE

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC RESERVOIRS. AR-37 AR-39 C-14 RADIATION RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION KRYPTON XENON

06801 STUDIES ON THE INCORPORATION OF TRITIATED THYMIDINE IN DEOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS. TRITIATED THYMIDINE MICE DNA LABELING SPECIFIC ACTIVITIES RADIATION EFFECTS METABOLISM

06836 THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS. TRITIATED WATER FATS SKIN BODY FLUIDS RETENTION SPECIFIC ACTIVITIES TISSUES BIOLOGICAL HALF-LIFE

06845 TRITIUM IN SURFACE WATERS OF THE NORTH PACIFIC. SURFACE WATERS OCEANS RADIATION RESIDENCE TIME MIXED LAYER NORTH PACIFIC OCEAN SPECIFIC ACTIVITIES

06860 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. TRITIATED WATER RABBITS RATS TOTAL BODY WATER RADIATION SPECIFIC ACTIVITIES BODY WATER

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. WATER VAPOR METHANE ATMOSPHERIC HYDROGEN CONCENTRATION STRATOSPHERE DEUTERIUM SPECIFIC ACTIVITIES

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

07013 TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN. DEUTERIUM ATMOSPHERIC HYDROGEN SPECIFIC ACTIVITIES ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING AIR

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTEES AVEC DE L'EAU CONTAMINEE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM ABCL REACTOR STACK. SNOW PRECIPITATION (METEOROLOGICAL) TRITIUM OXIDE CANADA SPECIFIC ACTIVITIES DILUTION RATE FACTORS NUCLEAR REACTORS

07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN. WASHOUT TRITIATED WATER WATER VAPOR RAINWATER EXCHANGE SPECIFIC ACTIVITIES STACK EMISSIONS

07116 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS PLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XB-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-88

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

SPECTROCHEMICAL ANALYSIS

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. LONG SHOT CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS ALASKA AMCHITKA ISLAND ALUTIAN ISLANDS WATER SPECTROCHEMICAL ANALYSIS

SPLLEN

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER: FATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLLEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06661 INTERNE KONTAMINATION MIT TRITIUM (INTERNAL CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY LIVER SPLLEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE RADIATION EFFECTS RADIATION EXPOSURE

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA PIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLLEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

SPRINGS

06760 MEASURING SUBSURFACE SPRING FLOW WITH RADIOTRACERS. TRACERS TRITIATED WATER SPRINGS SUBSURFACE FLOW AQUIPERS

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO. PROJECT RULISON PLOWSHARE PROGRAM MONITORING RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS RESERVOIRS SURFACE WATERS

07171 CONTRIBUTION DES MESURES ISOTOPIQUES A L'ETUDE DE LA FONTAINE DE VAUCLUSE. (CONTRIBUTION OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE FONTAINE DE VAUCLUSE.) C-14 SPRINGS HYDROLOGY FRANCE

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. O-18 ALPS CONCENTRATION SPRINGS SEASONAL VARIATIONS RECHARGE GROUND WATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY JURA

07175 COMPARISON OF HYDROLOGICAL AND MATHEMATICAL METHODS IN ANALYSIS OF TRITIUM DATA. MODELS HYDROLOGIC MODELS HYDROLOGY MATHEMATICAL ANALYSIS SPRINGS GROUND WATER

SR-89

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CB-141 CB-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. RADIOACTIVITY I-131 SR-90 SR-89 CS-137 FALLOUT RADIATION RADIATION EFFECTS RADIATION DOSE RADIATION EXPOSURE ENVIRONMENTAL RADIATION

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS. MAXIMUM PERMISSIBLE CONCENTRATION NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137 C-14 KR-85 MAN ORGANS SR-89

06822 RADIOACTIVITY IN NEW YORK SURFACE WATER, JANUARY-JUNE 1968. RADIATION NEW YORK SURFACE WATERS BETA RADIATION SR-89 SR-90 RADIOACTIVITY

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CB-141 CB-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CB-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CB-141 SAVANNAH RIVER PLANT

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS.
RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE
RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS
CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131
CS-137 TE-132 CS-138 NA-24 P-32 SC-48 MN-56
W-181 W-185 W-187 PB-203 HG-203 MAN
FOOD-CHAINS DOSE ESTIMATION

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964.
ENVIRONMENTAL MONITORING
ARGONNE NATIONAL LABORATORY RADIOACTIVITY
AIR MONITORING MONITORING CONTAMINATION
SAWMILL CREEK DES PLAINES RIVER RIVERS
RADIOACTIVE WASTES SR-90 TRITIATED WATER
ALPHA RADIATION BETA RADIATION SR-89 BA-140
CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM
SURFACE WATERS VEGETATION SOILS

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES; PHASE III.
PU-238 PU-239 PU-240 PU-241 DOSE ESTIMATION
EXTERNAL DOSE INTERNAL DOSE INREM EXREM
RADIATION EXPOSURE AGE-DEPENDENT MODELS MODELS
ORGANS SKIN INGESTION NUCLEAR EXCAVATION
SEA-LEVEL CANAL CANALS ROUTE 17 (SASARDI-MORTI)
SR-89 MAN I-131 ROUTE 17 (ATRATO-TRUANDO)
COMPUTER MODELS

SR-90

CONCENTRATION SR-90 I-131 NEW YORK

00038 DISTRIBUTION OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS.
NUCLEAR EXPLOSIONS NUCLEAR TESTING
UNDERGROUND NUCLEAR TESTING SR-90 CO-60 SOILS
TRANSPORT MOVEMENT FLOWSHARE PROGRAM

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF INTERNAL EMITTERS. BODY MAN PLUTONIUM SR-90
CS-137 ZN-65 GA-72 P-32

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. SR-90 DISTRIBUTION
DEPOSITION FALLOUT SAMPLING
ATMOSPHERE (TERRESTRIAL) HTO/SR-90 RATIO

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION
RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA
FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137
PU-239

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT
ENVIRONMENTAL RADIATION VEGETATION FRESH WATER
RADIATION ALGAE FISH MONITORING
GAMMA RADIATION FALLOUT NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103
RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140
ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65
MN-54 MAXIMUM PERMISSIBLE CONCENTRATION
ATMOSPHERE (TERRESTRIAL)

05184 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS. II. CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. FALLOUT SR-90 INDIA
DEPOSITION EVAPORATION
PRECIPITATION (METEOROLOGICAL) RAINFALL
DISTRIBUTION METEOROLOGY MODELS
SEASONAL VARIATIONS EVAPOTRANSPIRATION RAINWATER

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90
FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE
SEASONAL VARIATIONS PERIODIC VARIATIONS
STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT.
PRECIPITATION (METEOROLOGICAL)
GAS PROPORTIONAL COUNTERS O-18 EUROPE
MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN
PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS
DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT
SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE
TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY
DEUTERIUM

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES.
HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS
CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS
CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS

OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS
PELECYPODA MILK COLUMBIA RIVER RIVERS
TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64
ZN-69 AS-76 GA-72 MN-56 NP-239 ZN-65 CO-58
CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS
PASTURES LIVESTOCK COWS K-40 GRASSLANDS
THYROID GLAND DOMESTIC ANIMALS ORGANS

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE
BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137
PO-210 RA-226 TH-227 URANIUM PLUTONIUM
AMERICIUM METALS TECHNETIUM EXCRETION MAN

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS
PANAMA COLOMBIA MODELS MATHEMATICAL MODELS
SR-90 TE-132 SR-89 RU-106 TE-127 SM-151
DOSE RATES SPECIFIC ACTIVITIES

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT
LAKE TAHOE NEVADA TEST SITE CS-137 SR-90
CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES
RAINFALL SURFACE WATERS

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT.
RADIOACTIVITY I-131 SR-90 SR-89 CS-137
FALLOUT RADIATION RADIATION EFFECTS
RADIATION DOSE RADIATION EXPOSURE
ENVIRONMENTAL RADIATION

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS. NUCLEAR CRATERS CONTAMINATION TRITIATED WATER
SR-90 RU-106 CE-144 CS-137 GROUND WATER SEDAN
FLOWSHARE PROGRAM NEVADA TEST SITE

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS.
MAXIMUM PERMISSIBLE CONCENTRATION
NUCLEAR REACTORS ACCIDENTS I-131 SR-90 CS-137
C-14 KR-85 MAN ORGANS SR-89

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION
SR-90 RU-106 CONTAMINATION GROUND WATER TC-99
RADIOACTIVE DECAY CS-137 LEACHING

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER
CONTAMINATION RADIATION HANFORD PROJECT
RADIOACTIVE WASTE DISPOSAL BETA RADIATION
RH-RU-106 WASTE DISPOSAL AQUIFERS SR-90 CS-137

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965.
NATIONAL REACTOR TESTING STATION
RADIOACTIVE WASTE DISPOSAL HYDROLOGY
WASTE DISPOSAL SR-90 GROUND WATER
SURFACE WATERS AQUIFERS RADIOACTIVE WASTES

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS.
RADIOACTIVE WASTE DISPOSAL GLASS LEACHING SR-90
CS-137 SOILS SAND GROUND WATER

06809 RADIOACTIVITY IN THE HYDROLOGIC ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT REPORT. WATER MOVEMENT RADIOACTIVITY
CONCENTRATION SR-90 PROJECT RULISON HYDROLOGY
FLOWSHARE PROGRAM

06822 RADIOACTIVITY IN NEW YORK SURFACE WATER, JANUARY-JUNE 1968. RADIATION NEW YORK
SURFACE WATERS BETA RADIATION SR-89 SR-90
RADIOACTIVITY

06841 MESSUNG DES TRITIUM-JAHRESGANGES IM REGEN 1960-61 NACH ISOTOPENANREICHERUNG IM TRENNROHR (MEASUREMENT OF THE TRITIUM CONCENTRATION PATTERN IN RAIN IN 1960-61 BY ISOTOPIC ENRICHMENT IN THE SEPARATION PERIOD). GERMANY SR-90 RAINWATER
CONCENTRATION

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90
RAINFALL FALLOUT RADIATION STRATOSPHERE
ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT
RESIDENCE TIME

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES.
SR-90 SR-89 CE-141 CE-144 CS-137 RU-103
RU-106 ZR-CB-95 RADIOACTIVE WASTES
SAVANNAH RIVER PLANT GROUND WATER MIGRATION
SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90. SOVIET NUCLEAR TESTS TROPOSPHERIC EXCHANGE TROPOSPHERE SR-90 C-14 ATMOSPHERE (TERRESTRIAL) MIXING

06881 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06886 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CB-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 BU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CB-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE). ATMOSPHERE (TERRESTRIAL) LIQUID SCINTILLATORS EQUIPMENT INSTRUMENTS RAINWATER HYDROGEN SR-90 SEASONAL VARIATIONS PERIODIC VARIATIONS

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06985 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS RAINWATER GERMANY CONCENTRATION RAINOUT WASHOUT ATMOSPHERE (TERRESTRIAL) PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL)

06987 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06977 TRITIUM CONTENT OF RAIN IN TRONDHEIM. CONCENTRATION RAINWATER RESIDENCE TIME STRATOSPHERE SR-90 PRECIPITATION (METEOROLOGICAL) MONITORING NORWAY

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. FALLOUT CRATER LAKE LAKES SR-90 CS-137 TEMPERATURE PROFILES CONCENTRATION SOILS SEDIMENTS

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES SAUX DE PRECIPITATION EN FRANCE.

(EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) CONCENTRATION PRECIPITATION (METEOROLOGICAL) FRANCE SEASONAL VARIATIONS PERIODIC VARIATIONS TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE STRATOSPHERE SR-90

07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS SARGASSO SEA OCEANS SR-90 FALLOUT ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION DEPTH ACTIVATION ANALYSIS

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-46 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. CS-137 I-131 SR-90 FALLOUT ENVIRONMENTAL MONITORING MINNESOTA ATMOSPHERE (TERRESTRIAL) LAKES RIVERS PRECIPITATION (METEOROLOGICAL) MILK DAIRY PRODUCTS SURFACE WATERS BETA RADIATION RADIATION

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS REPORT, 1966-1969. Y-90 SR-90 CRASSOSTREA OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY ADSORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL I-131 PU-239

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. CONCENTRATION COLUMBIA RIVER HANFORD PROJECT P-32 ENVIRONMENTAL MONITORING CR-51 ZN-65 I-131 SR-90

07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90 I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35 EU-152 EU-154 EU-156 IR-192 PO-210 RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE RADIOPHARMACEUTICALS RADIATION DOSE

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY PLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

STACK DISCHARGES

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

STACK DISPERSION

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. TRITIATED WATER VAPOR RADIOACTIVE TRACERS TRACERS NUCLEAR FUEL PLANTS STACK DISPERSION RADIOACTIVE WASTES EFFLUENT AIR LIQUID SCINTILLATION COUNTING

STACK DISPERSION MAPPING

06816 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. CONTAMINATION RADIOACTIVE TRACERS TRACERS STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS TRITIATED WATER ATMOSPHERE (TERRESTRIAL) DISTILLATION SCINTILLATION COUNTING

STACK EMISSIONS

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT. NUCLEAR FUEL PLANTS ENVIRONMENTAL MONITORING STACK EMISSIONS I-129 KR-86 CONCENTRATION AIRBORNE PARTICULATES RADIOACTIVITY

07058 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION I-131 VEGETATION

07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN. WASHOUT TRITIATED WATER WATER VAPOR RAINWATER EXCHANGE SPECIFIC ACTIVITIES STACK EMISSIONS

STATISTICAL ANALYSIS

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

STEMFLOW

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

STERILITY

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS PETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

STORAGE

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. HYDROLOGY CANADA DEPOSITION RAINFALL PRECIPITATION (METEOROLOGICAL) GROUND WATER HYDROLOGIC MODELS MODELS OTTAWA RIVER RIVERS EVAPORATION FRACTIONATION STORAGE RETENTION

STORMS

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON HILDA 1964 AND BETSY 1965. DESTRUCTIVE FACTORS WATER VAPOR SEA WATER SALT WATER STORMS HURRICANES GASES CONCENTRATION

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

STRATIFICATION

07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) LAKES DISTRIBUTION FRANCE STRATIFICATION PRECIPITATION (METEOROLOGICAL) TEMPERATURE HYDROLOGY

STRATIGRAPHY

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

STRATOSPHERE

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM. C-14 CARBON DIOXIDE NUCLEAR TESTING STRATOSPHERE PANAMA CANAL ZONE RADIOBIOLOGY

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHAERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE MIXING RETENTION

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90 FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE SEASONAL VARIATIONS PERIODIC VARIATIONS STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. FALLOUT NUCLEAR TESTING RESIDENCE TIME STRATOSPHERE RAINFALL PRECIPITATION (METEOROLOGICAL) NORTH PACIFIC OCEAN PACIFIC OCEAN OCEANS ARCTIC ANTARCTIC ATMOSPHERIC NUCLEAR TESTING

06223 NEUBESTIMUNG DER NATUERLICHEN IRDISCHEN TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES NATUERLICHEN TRITIUM (REDETERMINATION OF NATURAL TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE OF NATURAL TRITIUM). RADIOACTIVE DECAY COSMIC RADIATION RADIATION RESIDENCE TIME STRATOSPHERE TROPOSPHERE SNOW GREENLAND

06244 STRATOSPHERISCHES TRITIUM (STRATOSPHERIC TRITIUM). PRECIPITATION (METEOROLOGICAL) RAINOUT GERMANY TROPOSPHERE MODELS STRATOSPHERE WASHOUT DEPOSITION

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06276 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE ENVIRONMENT. BEHAVIOR ENVIRONMENTS OXIDATION FALLOUT RESIDENCE TIME STRATOSPHERE OCEANS TRITIATED WATER

06363 MORATORIUM TRITIUM GEOPHYSICS. SURFACE WATERS ATMOSPHERE (TERRESTRIAL) NUCLEAR EXPLOSIONS EXPLOSIONS FALLOUT MOVEMENT STRATOSPHERE TROPOSPHERE

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968, BIOLOGY AND HEALTH PHYSICS DIVISION. ATMOSPHERE (TERRESTRIAL) CANADA RIVERS GROWTH RINGS SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS DEPOSITION STRATOSPHERE TROPOSPHERE RETENTION AQUIPERS MOVEMENT

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS. C-14 TREES PLANTS RAINWATER TROPOSPHERE ATMOSPHERE (TERRESTRIAL) STRATOSPHERE GROWTH RINGS CONCENTRATION

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18

WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90 RAINFALL FALLOUT RADIATION STRATOSPHERE ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT RESIDENCE TIME

06856 ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER. TRITIATED HYDROGEN TRITIATED WATER TRITIATED METHANE C-14 ATMOSPHERIC NUCLEAR TESTING TRITIATED COMPOUNDS STRATOSPHERE

06868 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER VAPOR TRITIATED WATER STRATOSPHERE TROPOSPHERE GASES

06871 TRITIUM IN RAINWATER. COSMIC RADIATION RADIATION TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) RAINWATER PRODUCTION RATE HYDROLOGY

06885 TRITIUM IN SOUTHERN HEMISPHERE PRECIPITATION 1953-1964. TRITIATED WATER SOUTHERN HEMISPHERE FALLOUT TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06893 TRITIUM AND DEUTERIUM IN ATMOSPHERIC HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN FALLOUT RH-102 TROPOSPHERE STRATOSPHERE DEUTERIUM NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION PRODUCTS. FALLOUT C-14 ATMOSPHERE (TERRESTRIAL) RADIATION STRATOSPHERE NUCLEAR EXPLOSIONS SAMPLING AUTORADIOGRAPHY BETA RADIATION GAMMA RADIATION

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06969 TRANSFER OF CARBON 14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN. C-14 STRATOSPHERE TROPOSPHERE TRANSFER OCEANS THERMOCLINE RATE CONSTANTS NUCLEAR EXPLOSIONS

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. WATER VAPOR METHANE ATMOSPHERIC HYDROGEN CONCENTRATION STRATOSPHERE DEUTERIUM SPECIFIC ACTIVITIES

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

06977 TRITIUM CONTENT OF RAIN IN TRONDHEIM. CONCENTRATION RAINWATER RESIDENCE TIME STRATOSPHERE SR-90 PRECIPITATION (METEOROLOGICAL) MONITORING NORWAY

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) CONCENTRATION PRECIPITATION (METEOROLOGICAL) FRANCE SEASONAL VARIATIONS PERIODIC VARIATIONS TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE STRATOSPHERE SR-90

STREAM DISCHARGE

06985 TRITIUM IN STREAMS IN THE UNITED STATES, 1961-1968. STREAMS CONCENTRATION UNITED STATES ALASKA SAMPLING STREAM DISCHARGE SAMPLING NETWORKS

STREAM FUNCTION

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

STREAMS

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES WASTE DISPOSAL WASTES MOVEMENT GROUND WATER TRACERS STREAMS SAVANNAH RIVER PLANT

06613 DIFFUSION OF TRITIATED MOISTURE FROM A STREAM. STREAMS ATMOSPHERE (TERRESTRIAL) MOISTURE DIFFUSION RADIOACTIVE WASTE DISPOSAL TRITIATED WATER VAPOR RADIOACTIVE WASTES

06985 TRITIUM IN STREAMS IN THE UNITED STATES, 1961-1966. STREAMS CONCENTRATION UNITED STATES ALASKA SAMPLING STREAM DISCHARGE SAMPLING NETWORKS

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO. PROJECT RULISON FLOWSHARE PROGRAM MONITORING RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS RESERVOIRS SURFACE WATERS

07056 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION 1-131 VEGETATION

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

STRONTIUM

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. RADIOACTIVE WASTE DISPOSAL HEALTH PHYSICS RESEARCH REACTOR DOSIMETRY RADIATION EFFECTS MEDICINE PLUTONIUM KRYPTON STRONTIUM SOILS CS-137 FORESTS CLINCH RIVER FOOD-CHAINS MAN INTERNAL EXPOSURE

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

SUBSURFACE FLOW

06760 MEASURING SUBSURFACE SPRING FLOW WITH RADIOTRACERS. TRACERS TRITIATED WATER SPRINGS SUBSURFACE FLOW AQUIFERS

SUGARS

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES SUGARS TRITIATED WATER

SULPHUR

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

SURFACE CONTAMINATION

06816 A METHOD FOR EVALUATING SURFACE CONTAMINATION OF SOFT BETA EMITTERS. LIQUID SCINTILLATION COUNTING

SURFACE CONTAMINATION CONTAMINATION BETA RADIATION

06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). RADIATION PROPORTIONAL COUNTER COUNTERS MEASUREMENT SURFACE CONTAMINATION CONTAMINATION LIQUID SCINTILLATION COUNTING BETA RADIATION

SURFACE SEEPAGE

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

SURFACE WATER CIRCULATION

06251 LE TRITIUM UTILISE COMME TRACER EN GEOPHYSIQUE (TRITIUM USED AS A TRACER IN GEOPHYSICS). TRACERS GEOPHYSICS CURRENTS UNDERGROUND WATER CIRCULATION SURFACE WATER CIRCULATION

SURFACE WATERS

04086 TRITIUM IN SURFACE WATERS, 1964-1965. SURFACE WATERS CONCENTRATION UNITED STATES SAMPLING

06193 C-14 OCH TRITIUM ISOTOPERNAS FOERKOMST OVER SKANDINAVIEN UNDER SENARA AR MED TILLAMPNING INOM MARKLARA OCH HYDROLOGI (THE OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND HYDROLOGY). C-14 SCANDINAVIA HYDROLOGY FALLOUT SURFACE WATERS GROUND WATER MONITORING

06212 TRITIUM HYDROLOGY IN NEW ZEALAND. HYDROLOGY NEW ZEALAND RAINWATER CONCENTRATION SURFACE WATERS GROUND WATER MOVEMENT TRACERS

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. SEASONAL VARIATIONS PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL) GROUND WATER AUSTRIA KARST MIXING MODELS SURFACE WATERS CONCENTRATION

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES. ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS SURFACE WATERS CIRCULATION MIXING ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

06228 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. SURFACE WATERS NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN INPUT-OUTPUT ANALYSIS ANALYSIS RESIDENCE TIME

06235 LARGE-SCALE UTILIZATION OF TRITIUM IN HYDROLOGIC STUDIES. TRACERS CIRCULATION MIXING GROUND WATER HYDROLOGICAL CYCLING SURFACE WATERS

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06253 THE NATURAL DISTRIBUTION OF TRITIUM.
COSMIC RADIATION SURFACE WATERS RADIATION
DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES
WINES PRODUCTION RATE
PRECIPITATION (METEOROLOGICAL) T/H RATIO

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER.
PRECIPITATION (METEOROLOGICAL)
NORTH PACIFIC OCEAN OCEANS PACIFIC OCEAN
SURFACE WATERS RESIDENCE TIME DEPTH
SPECIFIC ACTIVITIES

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA
ISLAND, ALASKA - AN ADDENDUM. HYDROLOGY
AMCHITKA ISLAND ALASKA ALUTIAN ISLANDS
LONG SHOT CONTAMINATION SURFACE WATERS
GROUND WATER MOVEMENT

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT
SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY
GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA
EXPLOSIONS ALUTIAN ISLANDS
UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS
SURFACE WATERS CONTAMINATION STRATIGRAPHY
PETROGRAPHY SEISMIC REPRODUCTION PROFILES
TRANSPORT TRITIATED WATER GROUND WATER

06363 MORATORIUM TRITIUM GEOPHYSICS.
SURFACE WATERS ATMOSPHERE (TERRESTRIAL)
NUCLEAR EXPLOSIONS EXPLOSIONS FALLOUT MOVEMENT
STRATOSPHERE TROPOSPHERE

06386 LAKE TAHOE FALLOUT STUDY. FALLOUT
LAKE TAHOE NEVADA TEST SITE CS-137 SR-90
CRATER LAKE PRECIPITATION (METEOROLOGICAL) LAKES
RAINFALL SURFACE WATERS

06397 TRITIUM IN NATURE. COSMIC RADIATION
PRECIPITATION (METEOROLOGICAL) WATER LAKES
OCEANS RIVERS SURFACE WATERS PRODUCTION RATE
WINES SEA WATER

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED
TRITIUM II. DISTRIBUTION COSMIC RADIATION
SURFACE WATERS RADIATION RAINFALL
PRECIPITATION (METEOROLOGICAL) TRITIATED WATER
SEA WATER FRESH WATER WINES

06402 TRITIUM IN NATURE. SURFACE WATERS NORWAY
COSMIC RADIATION HE-3 RADIATION DEUTERIUM

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON
RELEASE TO THE ENVIRONMENT. NUCLEAR REACTORS
ENVIRONMENTAL RADIATION SURFACE WATERS RADIATION
TRITIATED WATER NUCLEAR POWER INDUSTRY
GROUND WATER HYDROLOGICAL CYCLING

06463 TRITIUM IN SURFACE WATERS OF THE UNITED
STATES, 1966. SURFACE WATERS ANALYSIS
BODY BURDEN MEDICINE MEASUREMENT SAMPLING

06465 TRITIUM IN SURFACE WATER NETWORK,
JANUARY-JUNE 1968. SURFACE WATERS CLINCH RIVER
RIVERS POLLUTION WATER POLLUTION
NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06466 TRITIUM IN SURFACE WATER NETWORK, 1967.
SURFACE WATERS RIVERS SAVANNAH RIVER POLLUTION
WATER POLLUTION NUCLEAR FUEL PLANTS
CONTAMINATION SAMPLING

06471 TRITIUM IN SURFACE WATER NETWORK,
JANUARY-JUNE 1969. SAMPLING SURFACE WATERS
CLINCH RIVER RIVERS WATER POLLUTION POLLUTION
NUCLEAR FUEL PLANTS

06476 TRITIUM IN SURFACE WATER NETWORK,
JULY-DECEMBER 1969. SURFACE WATERS
SAVANNAH RIVER RIVERS SAMPLING CONCENTRATION
NUCLEAR FUEL PLANTS

06489 RADIOCARBON AND TRITIUM DATING.
RADIOACTIVE AGE DETERMINATION GROWTH RINGS
RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS
ATMOSPHERE (TERRESTRIAL) C-14 ARCHAEOLOGY
HYDROLOGY ANALYSIS OCEANS GEOLOGY
SURFACE WATERS

06616 ENVIRONMENTAL TRITIUM STUDIES AT THE
NATIONAL REACTOR TESTING STATION.
NATIONAL REACTOR TESTING STATION GROUND WATER
HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION
SURFACE WATERS RAINFALL TRITIATED WATER
NUCLEAR FUEL PLANTS
PRECIPITATION (METEOROLOGICAL) RAINOUT
CONCENTRATION RADIOACTIVE WASTES

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN
ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS

SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS
RAINFALL PRECIPITATION (METEOROLOGICAL)
AIRBORNE CONTAMINATION CHEMICAL COMPOSITION
RADIOACTIVITY

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING
STATION, IDAHO, 1966.
NATIONAL REACTOR TESTING STATION
RADIOACTIVE WASTE DISPOSAL HYDROLOGY
WASTE DISPOSAL CHROMIUM GROUND WATER
SURFACE WATERS AQUIPERS RADIOACTIVE WASTES
TRACERS

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING
STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965.
NATIONAL REACTOR TESTING STATION
RADIOACTIVE WASTE DISPOSAL HYDROLOGY
WASTE DISPOSAL SR-90 GROUND WATER
SURFACE WATERS AQUIPERS RADIOACTIVE WASTES

06607 MANAGEMENT OF FISSION PRODUCT TRITIUM IN
FUEL PROCESSING WASTES. RECYCLING
DECONTAMINATION SURFACE WATERS GROUND WATER
NUCLEAR FUEL PLANTS RADIOACTIVE WASTES
RADIOACTIVE WASTE DISPOSAL

06611 ENVIRONMENTAL TRITIUM IN CONJUNCTIVE USE
STUDIES OF CONTINENTAL RIVER SYSTEMS. TRACERS
GROUND WATER SURFACE WATERS
HYDROGEOLOGIC ANALYSIS MOVEMENT

06622 RADIOACTIVITY IN NEW YORK SURFACE WATER,
JANUARY-JUNE 1966. RADIATION NEW YORK
SURFACE WATERS BETA RADIATION SR-60 SR-90
RADIOACTIVITY

06644 ISOTOPIC COMPOSITION OF ATMOSPHERIC
HYDROGEN AND METHANE. ATMOSPHERIC HYDROGEN
ATMOSPHERIC METHANE SURFACE WATERS CASTLE TESTS

06645 TRITIUM IN SURFACE WATERS OF THE NORTH
PACIFIC. SURFACE WATERS OCEANS RADIATION
RESIDENCE TIME MIXED LAYER NORTH PACIFIC OCEAN
SPECIFIC ACTIVITIES

06651 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90
RAINFALL FALLOUT RADIATION STRATOSPHERE
ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT
RESIDENCE TIME

06902 TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN
WATER - INSTRUMENTATION. ENVIRONMENTS RAINWATER
SEA WATER SURFACE WATERS GROUND WATER HAWAII

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF
THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF
NUCLEAR SCIENCES, NEW ZEALAND. SAMPLING
ELECTROLYTIC ENRICHMENT HYDROGEN ETHYLAMINE
QUENCHING GAS NUCLEAR EXPLOSIONS FALLOUT OCEANS
PRECIPITATION (METEOROLOGICAL)
SOUTHERN HEMISPHERE RADIATION RAINFALL RIVERS
LATITUDE NUCLEAR TESTING SURFACE WATERS
GROUND WATER

06981 TRITIUM IN COMMUNITY WATER SUPPLIES, 1969.
CONCENTRATION COMMUNITY WATER SUPPLIES
RADIATION DOSE GROUND WATER SURFACE WATERS
UNITED STATES SAMPLING

06982 TRITIUM IN SURFACE WATER NETWORK,
JULY-DECEMBER 1969. SURFACE WATERS
RADIATION EXPOSURE CONCENTRATION SAMPLING
UNITED STATES

06983 TRITIUM IN SURFACE WATER NETWORK,
JANUARY-JUNE 1970. CONCENTRATION
SURFACE WATERS RADIATION DOSE SAMPLING
UNITED STATES

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT
IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS
FORESTS PUERTO RICO SURFACE WATERS SOILS
TRITIATED WATER WATER EXCHANGE TRANSPIRATION
TROPICS RESIDENCE TIME HYDROLOGY RAINOUT
DISTRIBUTION UPTAKE TREES

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR
POWERPLANTS. NUCLEAR REACTORS REACTORS
NUCLEAR POWER WASTES RADIOACTIVE WASTES
SURFACE WATERS CONCENTRATION SAMPLING
TRITIATED WATER

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF
WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS
IN THE RULISON PROJECT AREA, GARFIELD AND MESA
COUNTIES, COLORADO. PROJECT RULISON
FLOWSHARE PROGRAM MONITORING
RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS
RESERVOIRS SURFACE WATERS

07058 THE PERCH LAKE EVAPORATION STUDY.
RADIOACTIVE TRACERS TRACERS MOVEMENT
HYDROLOGICAL CYCLING TRITIATED WATER VAPOR
EVAPORATION TRITIATED WATER GROUND WATER WATER
SURFACE WATERS

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY,
JULY-DECEMBER 1966. CS-137 I-131 SR-90
FALLOUT ENVIRONMENTAL MONITORING MINNESOTA
ATMOSPHERE (TERRESTRIAL) LAKES RIVERS
PRECIPITATION (METEOROLOGICAL) MILK
DAIRY PRODUCTS SURFACE WATERS BETA RADIATION
RADIATION

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE
NATIONAL LABORATORY; REPORT FOR 1964.
ENVIRONMENTAL MONITORING
ARGONNE NATIONAL LABORATORY RADIOACTIVITY
AIR MONITORING MONITORING CONTAMINATION
SAWMILL CREEK DES PLAINES RIVER RIVERS
RADIOACTIVE WASTES SR-90 TRITIATED WATER
ALPHA RADIATION BETA RADIATION SR-89 BA-140
CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM
SURFACE WATERS VEGETATION SOILS

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER
FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF
CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS.
GROUND WATER SURFACE WATERS EUROPE WINES
CONCENTRATION CASTLE TESTS RUNOFF RAINFALL
PRECIPITATION (METEOROLOGICAL) RIVERS MODELS
WEISSER RIVER GERMANY

07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN
CANADIAN WATERS. DEUTERIUM DISTRIBUTION CANADA
SURFACE WATERS PRECIPITATION (METEOROLOGICAL)
HYDROLOGICAL CYCLING CONCENTRATION
SEASONAL VARIATIONS GREAT LAKES LAKES RIVERS
ALASKA GREENLAND

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC
POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS
CONCENTRATION SURFACE WATERS
RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS
RADIATION DOSE RADIOLOGICAL HAZARDS
TRITIATED WATER MUTATIONS RADIATION EFFECTS
GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

SWEDEN

06690 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC
MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN
AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30
JUNE 1962. RAINWATER ATMOSPHERE (TERRESTRIAL)
SEA WATER SWEDEN NORWAY IRELAND ICELAND
BACKGROUND RADIATION DISTRIBUTION RADIATION
ENVIRONMENTAL RADIATION

S-35

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE
ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24
SI-32 P-32 P-33 S-35 S-36 CL-36 CL-38 CL-39
HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL)
COSMIC RADIATION ENVIRONMENTS

06289 ESTIMATING BODY BURDEN LEVELS OF
RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA
FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE
BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137
PO-210 RA-226 TH-227 URANIUM PLUTONIUM
AMERICIUM METALS TECHNETIUM EXCRETION MAN

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC
ACIDS AS TO THE MODE OF LINKAGE OF THEIR
AMINO-ACID FRACTIONS AND WITH S-35-0(4),
S-35-METHIONINE AND S-35-CYSTINE REGARDING THE
SULPHUR TURNOVER IN HUMIC ACID AND SOIL.
NITROGEN COMPOUNDS ORGANIC COMPOUNDS HUMIC ACIDS
ACIDS C-14 S-35 INSTRUMENTS EQUIPMENT
AMINO ACIDS SOILS

07124 PROBLEMS ASSOCIATED WITH THE USE OF
LABELLED MOLECULES IN BIOLOGY AND MEDICINE.
GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY
TRACERS CELLULAR METABOLISM TOXICITY
GENETIC EFFECTS RADIATION EFFECTS

07178 A STATISTICAL SUMMARY OF UNITED STATES
ATOMIC ENERGY COMMISSION LICENSEES INTERNAL
EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM SR-90
I-131 P-32 CS-137 MIXED FISSION PRODUCTS S-35
EU-152 EU-154 EU-156 IR-192 PO-210
RADIATION EXPOSURE INTERNAL EXPOSURE INHALATION
INGESTION ABSORPTION MAN OCCUPATIONAL EXPOSURE
RADIOPHARMACEUTICALS RADIATION DOSE

S-38

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE
ENVIRONMENT. C-14 BE-7 BE-10 NA-22 NA-24

SI-32 P-32 P-33 S-35 S-36 CL-36 CL-38 CL-39
HALF-LIFE CONCENTRATION ATMOSPHERE (TERRESTRIAL)
COSMIC RADIATION ENVIRONMENTS

TAGGING

06420 ON THE MECHANISM OF THE SELF-INDUCED
EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC
HYDROCARBONS. TAGGING CHEMICAL REACTIONS
EXCHANGE REACTIONS ORGANIC COMPOUNDS
HYDROCARBONS TRITIATED COMPOUNDS

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN
PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER
(HTO) IN STUDIES ON METABOLISM). METABOLISM
TAGGING BLOOD PROTEINS FATTY ACIDS
NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS
GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL
TRITIATED WATER RABBITS RODENTS

06427 MEASUREMENT OF S PERIOD IN GROWING CELL
POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE
LABELLING WITH H-3- AND C-14-THYMIDINE. C-14
TAGGING GROWTH THYMIDINE AMINO ACIDS
NITROGEN COMPOUNDS ORGANIC COMPOUNDS

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL
NUCLEUS AFTER INCORPORATION OF H-3- OR
C-14-LABELLED THYMIDINE. CELL NUCLEUS
MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE
NUCLEIC ACIDS BETA RADIATION RADIATION DNA
DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE.
ENZYMES CHEMICAL REACTIONS TAGGING
TRITIATED WATER MUSCLE TISSUES RABBITS RODENTS

06437 THE MECHANISM OF THE TRIOSEPHOSPHATE
ISOMERASE REACTION. CHEMICAL REACTIONS WATER
ENZYMES TAGGING TRITIATED WATER ISOMERIZATION
MUSCLE

06603 KILLING OF CULTURED MAMMALIAN CELLS BY
RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS
196 DEGREES C. THYMIDINE NUCLEIC ACIDS
ORGANIC COMPOUNDS CELLS MAMMALS
RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE
DNA RADIATION EFFECTS MORTALITY

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES
MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM-
DOSAGE, PREPARATION OF LABELLED MOLECULES AND
BIOLOGICAL APPLICATIONS). TAGGING
CHEMICAL REACTIONS ANALYSIS
RADIOCHEMICAL ANALYSIS BIOCHEMISTRY
CHEMICAL ANALYSIS ISOTOPES EXCHANGE
TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY
HAZARDS CHEMICAL SYNTHESIS

TAP WATER

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND
GROUND WATER. WINES RAINWATER
PRECIPITATION (METEOROLOGICAL) HYDROLOGY
RIVER WATER TAP WATER GROUND WATER WELLS
SPRINGS JAPAN CONCENTRATION

TB-160

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1966
THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE
RADIATION EXPOSURE BETA RADIATION
ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN
P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58
CM-294 WATER AM-241

TC-99

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES
THROUGH SEDIMENTS UNDERLYING THE HANFORD
RESERVATION. HANFORD PROJECT WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION
SR-90 RU-106 CONTAMINATION GROUND WATER TC-99
RADIOACTIVE DECAY CS-137 LEACHING

TECHNETIUM

06289 ESTIMATING BODY BURDEN LEVELS OF
RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA
FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE
BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137
PO-210 RA-226 TH-227 URANIUM PLUTONIUM
AMERICIUM METALS TECHNETIUM EXCRETION MAN

TEMPERATURE

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF
TRITIUM. BIOLOGICAL HALF-LIFE
RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN
AGE TEMPERATURE WATER HALF-LIFE ANALYSIS
SAVANNAH RIVER PLANT

05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT. HALF-LIFE EFFECTIVE HALF-LIFE ASSIMILATION MAN BIOLOGICAL HALF-LIFE TEMPERATURE WEIGHT AGE

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06689 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1982. BIOLOGICAL HALF-LIFE TRITIATED WATER MAN BODY WEIGHT AGE TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE BIOASSAY

07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) LAKES DISTRIBUTION FRANCE STRATIFICATION PRECIPITATION (METEOROLOGICAL) TEMPERATURE HYDROLOGY

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE CRITICAL POINT OF HYDROGEN, DEUTERIUM, AND TRITIUM, AND THEIR DIATOMIC COMBINATIONS. DEUTERIUM HYDROGEN GASES VAPOR PRESSURE COEFFICIENTS TEMPERATURE CONSTANTS

TEMPERATURE PROFILES

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. FALLOUT CRATER LAKE LAKES SR-90 CS-137 TEMPERATURE PROFILES CONCENTRATION SOILS SEDIMENTS

TESTES

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

TE-127

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

TE-132

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

THERMAL ANALYSIS

06899 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1988. TRITIATED WATER SHALE DISTRIBUTION THERMAL ANALYSIS CANE PLOWSHARE PROGRAM CONTAMINATION OIL SHALE

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1989. PLOWSHARE PROGRAM TRITIATED WATER SHALE DISTRIBUTION CANE THERMAL ANALYSIS NATURAL GAS HYDROGEN CONTAMINATION

THERMAL DIFFUSION

06815 LE TRITIUM ATMOSPHERIQUE; MESURE ET APPLICATIONS (ATMOSPHERIC TRITIUM; MEASUREMENT AND

APPLICATION). ELECTROLYSIS ENRICHMENT THERMAL DIFFUSION GAS COUNTERS SCINTILLATION COUNTERS HYDROLOGY

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES. ELECTROLYTIC ENRICHMENT ENRICHMENT CONCENTRATION SNOW PRECIPITATION (METEOROLOGICAL) THERMAL DIFFUSION RECOVERY ANTARCTIC

THERMOCLINE

06252 THE GEOCHEMISTRY OF TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH ATLANTIC OCEAN OCEANS GEOCHEMISTRY GROUND WATER SURFACE WATERS ATLANTIC OCEAN METEOROLOGY RAINWATER OCEANOGRAPHY MIXING RUNOFF CIRCULATION COSMIC RADIATION RADIATION THERMOCLINE PRODUCTION RATE SEA WATER

06989 TRANSFER OF CARBON 14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN. C-14 STRATOSPHERE TROPOSPHERE TRANSFER OCEANS THERMOCLINE RATE CONSTANTS NUCLEAR EXPLOSIONS

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

THERMODYNAMIC EQUILIBRIUM

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE. THERMODYNAMICS HEAT CAPACITY ENTROPY ENERGY TRITIUM HYDRIDE RADIOACTIVITY DISSOCIATION THERMODYNAMIC EQUILIBRIUM

THERMODYNAMICS

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF TRITIUM AND TRITIUM HYDRIDE. THERMODYNAMICS HEAT CAPACITY ENTROPY ENERGY TRITIUM HYDRIDE RADIOACTIVITY DISSOCIATION THERMODYNAMIC EQUILIBRIUM

THERMOLUMINESCENT DOSIMETERS

06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. ATMOSPHERIC TRITIUM DOSIMETERS PHOTOGRAPHIC DOSIMETERS THERMOLUMINESCENT DOSIMETERS RADIOPHOTOLUMINESCENT DOSIMETERS MONITORING PERSONNEL MONITORING

THORIUM

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

06884 ORIGIN OF TRITIUM IN HYDROTHERMAL SOLUTIONS. TRITIATED WATER HYDROTHERMAL SOLUTIONS GEOTHERMAL WATERS URANIUM THORIUM

THROUGHFALL

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

THROWOUT

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE FLOWERING PLANTS PLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

THYMIDINE

06427 MEASUREMENT OF 8 PERIOD IN GROWING CELL POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE LABELING WITH H-3- AND C-14-THYMIDINE. C-14 TAGGING GROWTH THYMIDINE AMINO ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELLED THYMIDINE. CELL NUCLEUS MATHEMATICAL ANALYSIS TAGGING C-14 THYMIDINE NUCLEIC ACIDS BETA RADIATION RADIATION DNA DOSE ESTIMATION FLOWERING PLANTS ABSORBED DOSE

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06466 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

06603 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. THYMIDINE NUCLEIC ACIDS ORGANIC COMPOUNDS CELLS MAMMALS RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE DNA RADIATION EFFECTS MORTALITY

06955 MESURE DE LA CONTAMINATION DU CORPS HUMAIN (MEASUREMENT OF THE CONTAMINATION OF THE HUMAN BODY). THYMIDINE TRITIATED HYDROGEN TRITIATED WATER URINE MAN CONTAMINATION

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

THYMINES

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINES DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

THYMUS

07156 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. TRITIATED WATER IRRADIATION RATS RODENTS MAMMALS PETUS ORGANS RADIATION EFFECTS RECOVERY STERILITY LITTER SIZE RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION RADIATION DOSE BRAIN GONADS HEART KIDNEY THYMUS LIVER LUNGS

THYROID GLAND

03816 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1966. ENVIRONMENTAL RADIATION MAXIMUM PERMISSIBLE CONCENTRATION P-32 DOSE ESTIMATION THYROID GLAND COLUMBIA RIVER GROUND WATER PALLOUT FISH MILK P-32 SC-46 CR-51 ZN-65 NP-239 RH-RU-106 I-131 NA-24 CU-64 AS-76 SB-122 MAN ORGANS

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS. AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT THYROID GLAND BONE WHOLE BODY EXPOSURE

NUCLEAR REACTORS

TH-227

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

TH-234

07106 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

TISSUES

06074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS HEART EQUIPMENT ATMOSPHERE (TERRESTRIAL)

05105 TRITIUM ET SAU TRITIEE- DUREES LIMITEES DEPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE (TRITIUM AND TRITIATED WATER- TIME LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR REGENERATED ATMOSPHERES). CONTAMINATION ACCIDENTS ABSORPTION EQUATIONS MATHEMATICS TISSUES DIFFUSION TRITIATED WATER

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER I GROSS STUDIES ON METABOLISM MICE MAMMALS RODENTS BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION TISSUES

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION DEER PATS MAMMALS BODY WATER BODY FLUIDS RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE T/H RATIO

06266 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX. PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP. BODY FLUIDS BODY WATER LIPIDS ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS SHEEP RODENTS MAMMALS RATS RETENTION

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS TISSUES DEUTERIUM T/D RATIO

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06368 MOVEMENT AND DISTRIBUTION OF T² IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. FLOWERING PLANTS WATER VAPOR HELIANTHUS PLANTS NICOTIANA GASES TISSUES MOVEMENT DISTRIBUTION TRITIATED WATER TRANSPIRATION

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. TISSUES GASES RATS MAMMALS RODENTS WHOLE BODY EXPOSURE RADIATION EXPOSURE TRITIUM GAS TRITIUM OXIDE DISTRIBUTION RETENTION

06380 EFFECT OF RADIATION ON THE INCORPORATION OF TRITIUM BY THE RAT. OXIDES RATS MAMMALS RODENTS TISSUES TRITIUM OXIDE ABSORPTION

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER. III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER. II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE. ENZYMES CHEMICAL REACTIONS TAGGING TRITIATED WATER MUSCLE TISSUES RABBITS RODENTS

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE INCUBATED IN TRITIATED WATER. FATTY ACIDS ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER BIOCHEMISTRY

06631 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06636 THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS. TRITIATED WATER PATS SKIN BODY FLUIDS RETENTION SPECIFIC ACTIVITIES TISSUES BIOLOGICAL HALF-LIFE

06656 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). METABOLISM TRITIATED WATER MICE LIVER ORGANIC CELL SUBSTANCES BRAIN TISSUES IRRADIATION

06662 EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE (K EKSPERIMENTAL NOMU OBOSNOVANIYU PREDEL NO DOPUSTIMOJ KONTSENTRATSII OKISI TRITIYA). MAXIMUM PERMISSIBLE CONCENTRATION TISSUES BODY BURDEN RATS TRITIUM OXIDE RELATIVE BIOLOGICAL EFFECTIVENESS

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS ACCUMULATION ECOSYSTEMS 06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER SUBJECT. DISTRIBUTION RESIDENCE TIME SEDAN PLOWSHARE PROGRAM NUCLEAR CRATERS CONCENTRATION SOILS DEPTH

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. KANGAROO RATS RATS RODENTS MAMMALS RADIATION EXPOSURE BODY WATER TISSUES SPECIFIC ACTIVITIES RADIATION DOSE NUCLEAR CRATERS SEDAN PLOWSHARE PROGRAM CONCENTRATION BIOLOGY DNA HABITATS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS

07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE. TRITIUM OXIDE TRANSFER FETUS RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS RADIATION DOSE

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION TISSUES BODY WATER MAN RADIATION EXPOSURE

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

TOTAL BODY WATER

06660 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. TRITIATED WATER RABBITS RATS TOTAL BODY WATER RADIATION SPECIFIC ACTIVITIES BODY WATER

TOXIC EFFECTS

06789 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS. FINAL REPORT. JUNE 1, 1962 THROUGH JULY 31, 1964. TRITIUM OXIDE TOXIC EFFECTS TRITIATED WATER BODY WATER RADIATION EFFECTS AQUATIC LIFE

06792 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS. SUMMARY AND PROGRESS REPORT. JUNE 1, 1962 THROUGH JULY 31, 1963. TRITIUM OXIDE TOXIC EFFECTS RADIATION EFFECTS AQUATIC LIFE

TOXICITY

05104 TRITIUM HEALTH PHYSICS CONSIDERATIONS. RADIOACTIVITY MAXIMUM PERMISSIBLE CONCENTRATION TOXICITY GASES MONITORING TRITIATED WATER TRITIATED GAS

06490 TRITIUM-LABELED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06637 EFFECTS OF INTRACELLULAR IRRADIATION WITH TRITIUM. CELLS RADIATION EFFECTS NUCLEIC ACIDS ORGANIC COMPOUNDS MUTATIONS TOXICITY DNA

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. INTAKE RATE TRITIATED THYMIDINE RADIOTOXICITY TOXICITY MICE RETENTION UPTAKE METABOLISM

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. TRITIATED DIMETHOATE TOXICITY METABOLISM INSECTS ABSORPTION TRITIATED COMPOUNDS

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. TRITIUM OXIDE RADIATION EFFECTS TOXICITY BIOLOGICAL EFFECTS DOGS METABOLISM BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE EXCRETION

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07105 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR INCIDENTS INVOLVING NUCLEAR WARHEADS. NUCLEAR WARHEADS PU-239 ABSORPTION SKIN GASTROINTESTINAL TRACT RETENTION INHALATION TOXICITY INGESTION BONE RADIATION EXPOSURE LUNGS LIVER RADIATION DOSE DECONTAMINATION BIOLOGICAL EFFECTS CONTAMINATION

07124 PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE. GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY TRACERS CELLULAR METABOLISM TOXICITY GENETIC EFFECTS RADIATION EFFECTS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

TRACE ELEMENTS

07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). SEA WATER PLANKTON SEDIMENTS SARGASSO SEA OCEANS SR-90 FALLOUT ATLANTIC OCEAN TRACE ELEMENTS CONCENTRATION DEPTH ACTIVATION ANALYSIS

TRACERS

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH

APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFOREST CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFOREST MIXING EXCHANGE VERTICAL DISTRIBUTION

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS RATS MAMMALS RODENTS METABOLISM HYDROGEN TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS TRITIUM OXIDE BODY WATER

06190 TRITIUM GEOPHYSICS AS AN INTERNATIONAL RESEARCH PROJECT. GEOPHYSICS HYDROLOGY COSMIC RADIATION METEOROLOGY OCEANOGRAPHY TRACERS

06212 TRITIUM HYDROLOGY IN NEW ZEALAND. HYDROLOGY NEW ZEALAND RAINWATER CONCENTRATION SURFACE WATERS GROUND WATER MOVEMENT TRACERS

06213 OXYGEN-18 ET TRITIUM DANS LE BASSIN DEVIEN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). O-18 HYDRODYNAMICS FRANCE SAMPLING WATER TABLE HYDROLOGY TRACERS

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES EFFECTUEES AU CENTRE D'ETUDES NUCLEAIRES DE GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE NUCLEAR RESEARCH CENTRE). HYDROLOGY SAMPLING FALLOUT FRANCE PRECIPITATION (METEOROLOGICAL) KARST CONCENTRATION TRACERS HYDROGEOLOGY

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY GROWING CHLORELLA PYRENOIDOSA CELLS. METABOLISM CHLORELLA ALGAE CHLOROPHYTA PLANTS DEUTERIUM TRACERS

06218 TRITIUM CONTENT AS AN INDICATOR OF AGE AND MOVEMENT OF GROUND WATER IN THE ROSWELL BASIN, NEW MEXICO. MOVEMENT AGE TRACERS NEW MEXICO CONCENTRATION GROUND WATER

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL FIELD STUDIES. TRITIATED WATER TRANSPIRATION TREES PLANTS TRACERS ABSORPTION SOIL MOISTURE DEPTH

06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED BY MEANS OF HYDROGEN ISOTOPES. MOVEMENT SOIL MOISTURE TRACERS SOILS EVAPOTRANSPIRATION DEUTERIUM

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06235 LARGE-SCALE UTILIZATION OF TRITIUM IN HYDROLOGIC STUDIES. TRACERS CIRCULATION MIXING GROUND WATER HYDROLOGICAL CYCLING SURFACE WATERS

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCIN I-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

06265 GROUNDWATER STUDIES IN THE SABI VALLEY, RHODESIA, USING NATURAL TRITIUM MEASUREMENTS. GROUND WATER RADIOACTIVE AGE DETERMINATION TRACERS MOVEMENT SABI VALLEY RHODESIA

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES WASTE DISPOSAL WASTES MOVEMENT GROUND WATER TRACERS STREAMS SAVANNAH RIVER PLANT

06267 AQUIFER STORAGE DETERMINATION BY RADIOTRACER TECHNIQUES. TRACERS WATER STORAGE AQUIFERS MODELS MATHEMATICAL MODELS GROUND WATER CONCENTRATION

06273 DIFFUSION OF TRITIATED WATER IN SOILS. DIFFUSION SOILS TRACERS CLAYS DIFFUSION COEFFICIENT TRITIATED WATER

06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. DIFFUSION MONTMORILLONITE KAOLINITE TRACERS CLAYS SEDIMENTS SOILS DIFFUSION COEFFICIENT TRITIATED WATER

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROBIOLOGY

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX. PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINEAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14. P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06350 TRITIUM IN BIOLOGY. TRACERS BIOLOGICAL INDICATORS AUTORADIOGRAPHY RADIOBIOLOGY RADIOCHEMISTRY

06364 MEASURING GROUND WATER MOVEMENT WITH RADIOACTIVE AND CHEMICAL TRACERS. TRACERS MOVEMENT HYDROLOGY TRITIATED WATER GROUND WATER

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. RADIOACTIVE TRACERS TRACERS RIVERS INSTRUMENTS EQUIPMENT ABSORPTION SKIN PRECIPITATION (METEOROLOGICAL) MAN

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE RADIATION EXPOSURE FOODS KR-65 RADIOACTIVE TRACERS TRACERS ENGINEERING CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06385 STUDYING THE DIFFUSION OF AQUEOUS VAPOURS IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM. RADIOACTIVE TRACERS TRACERS DIFFUSION WATER VAPOR GASES ORGANIC COMPOUNDS POLYMERS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDS AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER II GROSS STUDIES ON THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS OXIDES TISSUES BODY FLUIDS CONCENTRATION BIOLOGICAL HALF-LIFE METABOLISM RETENTION

06433 BIOLOGICAL APPLICATIONS OF TRITIUM. RADIOACTIVE TRACERS TRACERS BETA RADIATION RADIATION BIOLOGICAL SYSTEMS DEUTERIUM METABOLISM BIOLOGICAL HALF-LIFE

06486 TRITIUM AND ITS COMPOUNDS. CHEMICAL REACTIONS CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS SAFETY RADIOACTIVE TRACERS CHEMICAL COMPOUNDS TRACERS ANALYSIS PHYSICAL PROPERTIES

06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS NUCLEIC ACIDS TOXICITY TRACERS MEDICINE BIOLOGY ANALYSIS ORGANIC COMPOUNDS AUTORADIOGRAPHY DOSE ESTIMATION BIOLOGICAL EFFECTIVENESS

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS CHEMICAL REACTIONS RADIATION EFFECTS CELLS HYDROLOGY PHYSICS CHEMISTRY TRACERS AUTORADIOGRAPHY BIOLOGICAL SYSTEMS TRITIATED COMPOUNDS

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA. TRANSPORT RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIOACTIVE TRACERS TRACERS SOILS TRITIATED WATER MOVEMENT GROUND WATER

06610 TRACING GROUNDWATER WITH CHLORIDE IONS AND TRITIUM THROUGH ACID KAOLINITIC SOIL. CHLORIDES INORGANIC COMPOUNDS GROUND WATER TRACERS SOILS KAOLINITE

06611 MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND O-18 THROUGH ACIDIC KAOLINITIC SOIL. O-18 TRACERS WATER SOILS DEUTERIUM MOVEMENT

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW AT THE SAVANNAH RIVER PLANT. GROUND WATER SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT TRACERS TRITIATED WATER MOVEMENT RADIOACTIVE WASTES

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. CONTAMINATION RADIOACTIVE TRACERS TRACERS STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS TRITIATED WATER ATMOSPHERE (TERRESTRIAL) DISTILLATION SCINTILLATION COUNTING

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1968. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL CHROMIUM GROUND WATER SURFACE WATERS AQUIFERS RADIOACTIVE WASTES TRACERS

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING CHEMICAL REACTIONS ANALYSIS RADIOCHEMICAL ANALYSIS BIOCHEMISTRY CHEMICAL ANALYSIS ISOTOPE EXCHANGE TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY HAZARDS CHEMICAL SYNTHESIS

06626 TRANSPORT OF RADIONUCLIDES BY GROUND WATER-SOME THEORETICAL ASPECTS. GROUND WATER TRANSPORT ROCK NEVADA TEST SITE TRACERS

06632 SOME FACTORS INFLUENCING INTERPRETATION OF STUDIES OF BODY WATER AND ELECTROLYTES WITH ISOTOPIC TRACERS. TRACERS RADIOACTIVE TRACERS BODY WATER BIOLOGICAL EFFECTIVENESS DEUTERIUM CHLORIDES

06780 MEASURING SUBSURFACE SPRING FLOW WITH RADIOTRACERS. TRACERS TRITIATED WATER SPRINGS SUBSURFACE FLOW AQUIPERS

06785 LABELING LAKE WATER WITH TRITIUM. LAKE MCILLAN LAKES LABELING TRITIATED WATER TRACERS HYDROLOGY

06788 TRITIUM TRACER IN ARCTIC PROBLEMS. TRACERS SEA WATER ICE OCEANS ARCTIC OCEAN MIXING EXCHANGE CONCENTRATION

06811 ENVIRONMENTAL TRITIUM IN CONJUNCTIVE USE STUDIES OF CONTINENTAL RIVER SYSTEMS. TRACERS GROUND WATER SURFACE WATERS HYDROGEOLOGIC ANALYSIS MOVEMENT

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS WATER EXCHANGE BARRIERS WATER BALANCE LUNGS SKIN BODY WATER GASTROINTESTINAL TRACT PHYSICAL PROPERTIES

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO 3. RAINFALL PRECIPITATION (METEOROLOGICAL) DEUTERIUM RADIATION RADIOCHEMICAL ANALYSIS RADIOACTIVITY BETA RADIATION SCAVENGING TRACERS STORMS CIRCULATION

06934 TRITIUM (H-3); A BIBLIOGRAPHY OF UNCLASSIFIED LITERATURE. DEUTERIUM BIBLIOGRAPHY NUCLEAR PROPERTIES PHYSICAL PROPERTIES TRACERS

06951 LE TRITIUM UTILISE COMME TRACEUR EN GEOPHYSIQUE (TRITIUM USED AS A TRACER IN GEOPHYSICS). TRACERS GEOPHYSICS CURRENTS UNDERGROUND WATER CIRCULATION SURFACE WATER CIRCULATION

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90 O-18 RADIOACTIVE TRACERS TRACERS MODELS CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE FALLOUT HYDROLOGY DISTRIBUTION PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE MATHEMATICAL MODELS

06997 ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA). RADIOACTIVE TRACERS LAKE GENEVA LAKES TRACERS MIXING

07004 BIBLIOGRAPHY ON TRITIUM IN GROUNDWATER AND AS GROUNDWATER TRACER (1964-1965). GROUND WATER BIBLIOGRAPHY TRACERS HYDROLOGY

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. (TRITIUM STUDY OF THE DYNAMICS OF UNDERGROUND WATER.) MATHEMATICAL MODELS MODELS TRACERS UNDERGROUND WATER CIRCULATION HYDROLOGY

07046 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLOCATION MATHEMATICAL MODELS MODELS TRACERS

07056 THE PERCH LAKE EVAPORATION STUDY. RADIOACTIVE TRACERS TRACERS MOVEMENT HYDROLOGICAL CYCLING TRITIATED WATER VAPOR EVAPORATION TRITIATED WATER GROUND WATER WATER SURFACE WATERS

07082 MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION. LABORATORY METHODS RAINWATER TRACERS METEOROLOGY WATER CIRCULATION ELECTROLYTIC ENRICHMENT MEASUREMENT

07124 PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE. GENERAL REVIEW. C-14 S-35 P-32 RADIOBIOLOGY

TRACERS CELLULAR METABOLISM TOXICITY GENETIC EFFECTS RADIATION EFFECTS

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. TRACERS SOIL MOISTURE MOVEMENT EVAPOTRANSPIRATION RAINWATER DISPERSION DEUTERIUM ENRICHMENT SOILS

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. TRITIATED WATER VAPOR RADIOACTIVE TRACERS TRACERS NUCLEAR FUEL PLANTS STACK DISPERSION RADIOACTIVE WASTES EFFLUENT AIR LIQUID SCINTILLATION COUNTING

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) TRACERS LAKES MIXING ESTUARIES RADIOACTIVE TRACERS LAKE GENEVA FRANCE RESIDENCE TIME

7 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM. COSMIC RADIATION METEOROLOGY WATER HYDROLOGY RADIOACTIVE AGE DETERMINATION WATER SUPPLY PLANTS TRACERS

TRANSFER

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. MAN ORGANS HALF-LIFE FOOD-CHAINS BIOLOGICAL HALF-LIFE SEA-LEVEL CANAL DOSE ESTIMATION MODELS CONTAMINATION ENVIRONMENTS TRANSFER COMPARTMENTS SPECIFIC ACTIVITIES GROWTH I-131 THYROID GLAND INGESTION COMPUTER PROGRAM

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEMPLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES. ATMOSPHERE (TERRESTRIAL) C-14 DEPTH OCEANS SURFACE WATERS CIRCULATION MIXING ATLANTIC OCEAN TRANSFER EXCHANGE VELOCITY

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY. FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06326 THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN. GASTROINTESTINAL TRACT MAN URINE INGESTION ABSORPTION BLOOD TRANSFER TRITIATED WATER

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. TRANSFER ECOLOGY ECOSYSTEMS PANAMA COLOMBIA MODELS MATHEMATICAL MODELS SR-90 TE-132 SR-89 RU-106 TE-127 SM-151 DOSE RATES SPECIFIC ACTIVITIES

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06605 SKIN CONTACT TRANSFER OF TRITIUM FROM BRASS. SKIN TRANSFER BRASS ABSORPTION BODY WATER URINE ANALYSIS

06636 HEALTH PHYSICS AND MEDICAL DIVISION, PROGRESS REPORT, JANUARY-DECEMBER, 1967. BRASS SKIN ADSORPTION TRANSFER

06604 TRANSFER OF RADIOACTIVE WATER, UREA AND GLYCINE BETWEEN MATERIAL AND POSTAL BODY FLUIDS IN RABBITS AND PIGS. C-14 UREA GLYCINE PERITONEUM PIGS RABBITS ALLANTOIC SAC TRITIATED WATER TRANSFER BODY FLUIDS TRITIATED WATER

06959 A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS PROG SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER. PROGS AQUATIC LIFE PERMEABILITY COEFFICIENT TRITIATED WATER ISOTOPE EFFECT SKIN TRANSFER

06966 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

06969 TRANSFER OF CARBON 14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN. C-14 STRATOSPHERE TROPOSPHERE TRANSFER OCEANS THERMOCLINE RATE CONSTANTS NUCLEAR EXPLOSIONS

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. SOILS CONTAMINATION RADIATION DOSE MAN MOVEMENT DEPOSITION MODELS RAINFALL PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DIFFUSION COEFFICIENT CONCENTRATION TRANSFER

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. AIR ATMOSPHERIC TRITIUM WATER VAPOR TRANSFER LAKES LAKE TAHOE TRANSFER RATES EQUATIONS

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTÉES AVEC DE L'EAU CONTAMINÉE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE. TRITIUM OXIDE TRANSFER FETUS RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS RADIATION DOSE

07102 A RELATION BETWEEN PROTIIUM/TRITIUM AND PROTIIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT 07103 CONTRIBUTION A L'ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIPERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

TRANSFER RATES

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. AIR ATMOSPHERIC TRITIUM WATER VAPOR TRANSFER LAKES LAKE TAHOE TRANSFER RATES EQUATIONS

TRANSFORMATIONS

06630 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). TRITIATED WATER PHOTOSYNTHESIS LEAVES TRANSPIRATION TRANSFORMATIONS MASS DISCRIMINATION LIQUID SCINTILLATION COUNTING

TRANSLOCATION

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH

APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEPFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14. P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

07046 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLOCATION MATHEMATICAL MODELS MODELS TRACERS

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

TRANSPIRATION

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL. HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM. WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. PUERTO RICO EL VERDE RAINFORESTS STORAGE CYCLING TRANSLOCATION COMPARTMENTS HYDROGEN BUDGET MODELS MATHEMATICAL MODELS RAINFALL CLIMATOLOGY METABOLISM PHYSIOLOGY INPUT-OUTPUT ANALYSIS THROUGHFALL STEPFLOW EVAPORATION TRANSPIRATION PHOTOSYNTHESIS TRACERS TRANSFER

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL FIELD STUDIES. TRITIATED WATER TRANSPIRATION TREES PLANTS TRACERS ABSORPTION SOIL MOISTURE DEPTH

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROUGHOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROBIOLOGY

06368 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. FLOWERING PLANTS WATER VAPOR HELIANTHUS PLANTS NICOTIANA GASES TISSUES MOVEMENT DISTRIBUTION TRITIATED WATER TRANSPIRATION

06630 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). TRITIATED WATER PHOTOSYNTHESIS LEAVES TRANSPIRATION TRANSFORMATIONS MASS DISCRIMINATION LIQUID SCINTILLATION COUNTING

06875 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION. TRITIATED WATER ROOT SYSTEM ROOTS PLANTS HELIANTHUS TRANSPIRATION UPTAKE FLOWERING PLANTS

06967 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

07023 VERWENDUNG VON TRIERTEM WASSER (THO) ZUR PORTLAUFENDEN REGISTRIERUNG DES TRANSPIRATIONSVORLAUFES BEI IEKTEN. (USE OF TRITIATED WATER FOR CONTINUOUS REGISTRATION OF INSECT TRANSPIRATION.) TRITIATED WATER INSECTS TRANSPIRATION BODY WATER RADIOBIOLOGY

TRANSPORT

06038 DISTRIBUTION OF RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS. NUCLEAR EXPLOSIONS NUCLEAR TESTING UNDERGROUND NUCLEAR TESTING SR-90 CO-60 SOILS TRANSPORT MOVEMENT FLOWSHARE PROGRAM

06231 THE ATMOSPHERIC TRANSPORT OF TRITIUM. ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) TRANSPORT EQUATIONS TRITIATED WATER CIRCULATION

06233 WATER TRACING IN THE HYDROLOGIC CYCLE. O-18 C-14 TRACERS TRANSPORT ASIA HYDROLOGICAL CYCLING MOVEMENT CIRCULATION DISTRIBUTION FALLOUT GROUND WATER EVAPOTRANSPIRATION PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS PERIODIC VARIATIONS NORTH AMERICA SOUTH AMERICA EUROPE MEDITERRANEAN INDIAN OCEAN PACIFIC OCEAN OCEANS DEUTERIUM

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO FLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ATMOSPHERE (TERRESTRIAL) ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) STRATOSPHERE OCEANS SURFACE WATERS RAINWATER TRANSPORT DEPOSITION MODELS CONCENTRATION RAINFALL

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCENCE I-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965 APPENDICES. HANFORD PROJECT RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS ATMOSPHERE (TERRESTRIAL) FOODS CROPS PLANTS FISH AQUATIC LIFE ANATIDAE BIRDS OYSTERS BENTHIC FAUNA BENTHOS MOLLUSKS PELECYPODA MILK COLUMBIA RIVER RIVERS TRANSPORT I-131 SR-90 NA-24 P-32 CR-51 CU-64 ZN-69 AS-76 GA-72 NN-56 NP-239 ZN-65 CO-58 CO-60 CS-137 ZR-NB-95 CE-PR-144 DAIRY PRODUCTS PASTURES LIVESTOCK COWS K-40 GRASSLANDS THYROID GLAND DOMESTIC ANIMALS ORGANS

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

06367 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. RIVERS WATER TRANSPORT MATHEMATICAL MODELS MODELS HALF-LIFE HYDROLOGY

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA. TRANSPORT RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIOACTIVE TRACERS TRACERS SOILS TRITIATED WATER MOVEMENT GROUND WATER

06626 TRANSPORT OF RADIONUCLIDES BY GROUND WATER-SOME THEORETICAL ASPECTS. GROUND WATER TRANSPORT ROCK NEVADA TEST SITE TRACERS

06621 RADIOACTIVITY IN WATER - PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM MESASERDE FORMATION RADIOACTIVITY CONCENTRATION GUIDES GROUND WATER TRANSPORT

06666 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. TRITIATED WATER ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT CL-36 UPTAKE TRANSPORT

06666 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. TRITIATED WATER ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT CL-36 UPTAKE TRANSPORT

06688 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 FE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06697 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) CONCENTRATION PRECIPITATION (METEOROLOGICAL) FRANCE SEASONAL VARIATIONS PERIODIC VARIATIONS TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE STRATOSPHERE SR-90

07044 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLLOCATION MATHEMATICAL MODELS MODELS TRACERS

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER FLOWSHARE PROGRAM MOVEMENT CONTAMINATION GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS TRANSPORT GASES DIFFUSION KR-85 DIFFUSION EQUATION EQUATIONS

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. GROUND WATER SR-90 PROJECT GASBUGGY FLOWSHARE PROGRAM CS-137 CONCENTRATION TRANSPORT HYDROLOGY MIGRATION CONTAMINATION NEW MEXICO GEOLOGY MONITORING

07187 FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES FROM NUCLEAR POWER PRODUCTION. GREAT LAKES LAKE MICHIGAN NUCLEAR REACTORS NUCLEAR POWER INDUSTRY TRANSPORT CONCENTRATION RADIOACTIVITY

TREE RINGS

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

TREES

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL FIELD STUDIES. TRITIATED WATER TRANSPIRATION TREES PLANTS TRACERS ABSORPTION SOIL MOISTURE DEPTH

06261 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROGEOLOGY

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS. C-14 TREES PLANTS RAINWATER TROPOSPHERE ATMOSPHERE (TERRESTRIAL) STRATOSPHERE GROWTH RINGS CONCENTRATION

06460 NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS. C-14 KR-85 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL) GROWTH RINGS TREES PLANTS RAINWATER CONCENTRATION

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

07146 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

TRITIATED ACETIC ACID

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

TRITIATED ACTINOMYCIN D

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. TRITIATED ACTINOMYCIN D ANTIBIOTICS OCCYTE NUCLEUS NUCLEOLI DNA LABELING POLYPEPTIDES

TRITIATED COMPOUNDS

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALF-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS BIOLOGICAL HALF-LIFE ELIMINATION TRITIATED WATER

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. RADIATION EFFECTS CHEMICAL SYNTHESIS ADENINE THYMINE DNA C-14 RADIOSENSITIVITY DOGS MAMMALS CELLS TRITIATED COMPOUNDS

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

06491 SIMPLIFIED SOLID-STATE SCINTILLATION COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN BIOLOGICAL AND ORGANIC MATERIALS. C-14 CL-36 RADIOCHEMICAL ANALYSIS ANALYSIS CHEMICAL ANALYSIS SCINTILLATION COUNTING TRITIATED COMPOUNDS

06420 ON THE MECHANISM OF THE SELF-INDUCED EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC HYDROCARBONS. TAGGING CHEMICAL REACTIONS EXCHANGE REACTIONS ORGANIC COMPOUNDS HYDROCARBONS TRITIATED COMPOUNDS

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES. RADIOACTIVE TRACERS CHEMICAL REACTIONS RADIATION EFFECTS CELLS HYDROLOGY PHYSICS CHEMISTRY TRACERS AUTORADIOGRAPHY BIOLOGICAL SYSTEMS TRITIATED COMPOUNDS

06492 THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS. MAXIMUM PERMISSIBLE CONCENTRATION CHEMICAL COMPOUNDS HAZARDS URINE MAN INHALATION TRITIATED WATER VAPOR TRITIATED WATER TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS BODY BURDEN

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). TAGGING CHEMICAL REACTIONS ANALYSIS RADIOCHEMICAL ANALYSIS BIOCHEMISTRY CHEMICAL ANALYSIS ISOTOPE EXCHANGE TRITIATED COMPOUNDS TRACERS AUTORADIOGRAPHY HAZARDS CHEMICAL SYNTHESIS

06655 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

06656 ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER. TRITIATED HYDROGEN TRITIATED WATER TRITIATED METHANE C-14 ATMOSPHERIC NUCLEAR TESTING TRITIATED COMPOUNDS STRATOSPHERE

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. TRITIATED DIMETHOATE TOXICITY METABOLISM INSECTS ABSORPTION TRITIATED COMPOUNDS

06976 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE. TRITIATED THYMIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS RADIATION EFFECTS BIOLOGICAL EFFECTS GENETIC EFFECTS MUTATIONS

07010 A COMPARISON OF H-3- AND C-14-GLUCOSE METABOLISM IN THE INTACT RAT. TRITIATED GLUCOSE TRITIATED COMPOUNDS METABOLISM RATS RODENTS C-14

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. TRITIATED COMPOUNDS RADIATION EFFECTS GENETIC EFFECTS RADIOACTIVE DECAY BACTERIA MICROORGANISMS BACTERIOPHAGES LETHALITY MUTATIONS ESCHERICHIA RADIATION DOSE

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS RODENTS MAMMALS FATTY ACIDS RETENTION DISTRIBUTION

TRITIATED CORTICOSTEROIDS

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

TRITIATED CYTOSINE

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. TRITIATED CYTOSINE BACTERIOPHAGES ESCHERICHIA BACTERIA MICROORGANISMS RADIOACTIVE DECAY DNA RADIATION EFFECTS MUTATIONS TRITIATED COMPOUNDS

TRITIATED DIMETHOATE

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. TRITIATED DIMETHOATE TOXICITY METABOLISM INSECTS ABSORPTION TRITIATED COMPOUNDS

TRITIATED DRUGS

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER MAN KIDNEY TESTES LIVER BRAIN MUSCLE BONE MARROW HALF-LIFE ORGANS

TRITIATED ETHANE

TRITIATED METHANE TRITIATED ETHANE TRITIATED PROPANE FLOWSHARE PROGRAM

06823 POSSIBLE TECHNIQUES FOR DECONTAMINATION OF NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR EXPLOSION. TRITIATED METHANE TRITIATED ETHANE DECONTAMINATION EXCHANGE REACTIONS GAS WELLS NATURAL GAS KR-85

06837 ISOTOPIC STUDIES OF ATMOSPHERIC METHANE, ETHANE, AND KRYPTON. KR-85 TRITIATED METHANE TRITIATED ETHANE ATMOSPHERE (TERRESTRIAL)

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. KR-85 TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE TRITIATED WATER CAVITY GAS PROJECT GASBUGGY FLOWSHARE PROGRAM

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANES); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1969. CANE SHALE SEDIMENTARY ROCK ROCK CONTAMINATION TRITIATED METHANE TRITIATED ETHANE FLOWSHARE PROGRAM

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. CONTAMINATION OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE RETORTED OIL

TRITIATED POLIC ACID

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS

TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

TRITIATED GAS

05104 TRITIUM HEALTH PHYSICS CONSIDERATIONS. RADIOACTIVITY MAXIMUM PERMISSIBLE CONCENTRATION TOXICITY GASES MONITORING TRITIATED WATER TRITIATED GAS

TRITIATED GLUCOSE

06852 EINBAU VON H-3-D-GLUCOSE WAHREND DER OOGENSE BEI APIS MELLIFICA L (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENSES IN APIS MELLIFICA L). TRITIATED GLUCOSE GLYCOGEN HONEY BEE INSECTS INSECT OOGENSES REPRODUCTION

07010 A COMPARISON OF H-3- AND C-14-GLUCOSE METABOLISM IN THE INTACT RAT. TRITIATED GLUCOSE TRITIATED COMPOUNDS METABOLISM RATS RODENTS C-14

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS RODENTS MAMMALS FATTY ACIDS RETENTION DISTRIBUTION

TRITIATED HISTIDINE

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

TRITIATED HYDROGEN

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. CHEMICAL COMPOSITION CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85 EXPLOSIONS METHANE ETHANE HYDROGEN CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN TRITIATED WATER

06498 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. RETENTION EXCRETION MAN PHYSIOLOGY TOXICITY TRACERS RADIOACTIVE TRACERS MAXIMUM PERMISSIBLE CONCENTRATION SKIN GASTROINTESTINAL TRACT ABSORPTION TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN RADIATION EXPOSURE RADIOLOGICAL HAZARDS METABOLISM BIOLOGICAL HALF-LIFE

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06814 A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE. ACCIDENTS ATMOSPHERE (TERRESTRIAL) GASES HYDROGEN TRITIATED HYDROGEN WINDSCALE NUCLEAR REACTORS

06856 ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER. TRITIATED HYDROGEN TRITIATED WATER TRITIATED METHANE C-14 ATMOSPHERIC NUCLEAR TESTING TRITIATED COMPOUNDS STRATOSPHERE

06868 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER VAPOR TRITIATED WATER STRATOSPHERE TROPOSPHERE GASES

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. KR-85 TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE TRITIATED WATER CAVITY GAS PROJECT GASBUGGY FLOWSHARE PROGRAM

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE L'ATMOSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION). TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER COSMIC RADIATION RADIATION REACTORS SOIL CONTAMINATION NUCLEAR EXPLOSIONS

06948 DETECTION ET MESURE DE LA CONTAMINATION DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF THE CONTAMINATION OF GASES AND VAPORS). TRITIATED WATER OXIDATION FISSION PRODUCTS METALLIC TRITIDES TRITIATED HYDROGEN CONTAMINATION

06952 CONCENTRATIONS MAXIMALES ADMISSIBLES POUR LE TRITIUM ET SES COMPOSES (MAXIMUM PERMISSIBLE CONCENTRATION FOR TRITIUM AND ITS COMPOUNDS). TRITIATED WATER TRITIATED HYDROGEN TRITIATED THYMIDINE DNA METABOLISM MAXIMUM PERMISSIBLE CONCENTRATION

06955 MESURE DE LA CONTAMINATION DU CORPS HUMAIN (MEASUREMENT OF THE CONTAMINATION OF THE HUMAN BODY). THYMIDINE TRITIATED HYDROGEN TRITIATED WATER URINE MAN CONTAMINATION

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. CONTAMINATION OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE RETORTED OIL

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. CANE TRITIATED HYDROGEN TRITIATED METHANE SHALE CONTAMINATION TRITIATED WATER NATURAL GAS FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

TRITIATED METHANE

TRITIATED METHANE TRITIATED ETHANE TRITIATED PROPANE FLOWSHARE PROGRAM

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE AND SOURCES OF TRITIATED METHANE. HYDROGEN GASES METHANE NUCLEAR POWER INDUSTRY T/H RATIO ATMOSPHERE (TERRESTRIAL) TRITIATED METHANE

06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. METHANE GASES METHYLENE ORGANIC COMPOUNDS ATMOSPHERE (TERRESTRIAL) OXIDES TRITIATED HYDROGEN TRITIATED METHANE NITRIC OXIDE NITROGEN COMPOUNDS STRATOSPHERE

06823 POSSIBLE TECHNIQUES FOR DECONTAMINATION OF NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR EXPLOSION. TRITIATED METHANE TRITIATED ETHANE DECONTAMINATION EXCHANGE REACTIONS GAS WELLS NATURAL GAS KR-85

06937 ISOTOPIC STUDIES OF ATMOSPHERIC METHANE, ETHANE, AND KRYPTON. KR-85 TRITIATED METHANE TRITIATED ETHANE ATMOSPHERE (TERRESTRIAL)

06856 ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER. TRITIATED HYDROGEN TRITIATED WATER TRITIATED METHANE C-14 ATMOSPHERIC NUCLEAR TESTING TRITIATED COMPOUNDS STRATOSPHERE

06868 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER VAPOR TRITIATED WATER STRATOSPHERE TROPOSPHERE GASES

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. KR-85 TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE TRITIATED WATER CAVITY GAS PROJECT GASBUGGY FLOWSHARE PROGRAM

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE L'ATMOSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION). TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER COSMIC RADIATION RADIATION REACTORS SOIL CONTAMINATION NUCLEAR EXPLOSIONS

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1969. CANE SHALE SEDIMENTARY ROCK ROCK CONTAMINATION TRITIATED METHANE TRITIATED ETHANE FLOWSHARE PROGRAM

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. CONTAMINATION OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE RETORTED OIL

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. CANE TRITIATED HYDROGEN TRITIATED METHANE SHALE CONTAMINATION TRITIATED WATER NATURAL GAS FLOWSHARE PROGRAM NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

TRITIATED POLYMERS

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. TRITIATED POLYMERS LUMINOUS DIAL PAINT RADIUM SKIN CONTAMINATION CONTAMINATION CONCENTRATION GRAM-LAMBERT MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN

TRITIATED PROPANE

TRITIATED METHANE TRITIATED ETHANE TRITIATED PROPANE FLOWSHARE PROGRAM

TRITIATED SEX-HORMONES

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

TRITIATED THYMIDINE

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION CELLS DNA CHROMOSOMES TRITIATED WATER BETA RADIATION MUTATIONS TRITIATED THYMIDINE RADIATION EFFECTS HAMSTERS RODENTS

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH ACTIVITIES, 1958-1963. RADIATION EFFECTS MORPHOLOGY PLANTS METABOLISM THYMIDINE CORN CROPS GRAINS PEAS TRITIATED THYMIDINE ROOTS MUTATIONS

06603 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. THYMIDINE NUCLEIC ACIDS ORGANIC COMPOUNDS CELLS MAMMALS RADIOACTIVE DECAY TAGGING TRITIATED THYMIDINE DNA RADIATION EFFECTS MORTALITY

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. INTAKE RATE TRITIATED THYMIDINE RADIOTOXICITY TOXICITY MICE RETENTION UPTAKE METABOLISM

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION STUDIES. TRITIATED THYMIDINE X-IRRADIATION RADIATION ORGANS RATS UPTAKE KIDNEY RADIATION EFFECTS

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE. C-14 DNA MICE TUMORS CARCINOGENIC EFFECTS RETENTION TRITIATED THYMIDINE RADIATION EFFECTS

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. TRITIATED THYMIDINE RADIATION DOSE CYTOTOXIC EFFECTS MAN LEUKEMIA DISEASES NUCLEUS CELLS AUTORADIOGRAPHY

06801 STUDIES ON THE INCORPORATION OF TRITIATED THYMIDINE IN DESOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS. TRITIATED THYMIDINE MICE DNA LABELING SPECIFIC ACTIVITIES RADIATION EFFECTS METABOLISM

06803 INCORPORATION OF (H-3) THYMIDINE INTO NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED MAMMALIAN CELLS. LIVER CELLS DNA NUCLEAR DNA MITOCHONDRIAL DNA TRITIATED THYMIDINE UPTAKE

06812 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM AFTER INCORPORATION OF H-3-THYMIDINE. TRITIATED THYMIDINE RABBITS CORNEAL ENDOTHELIUM ENDOTHELIAL CELLS ENDOTHELIUM DNA SYNTHESIS RETENTION

06843 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR TRITIATED WATER AND TRITIATED THYMIDINE. MAXIMUM PERMISSIBLE CONCENTRATION DOSE ESTIMATION TRITIATED WATER TRITIATED THYMIDINE BETA RADIATION RADIATION CONCENTRATION ABSORBED DOSE

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE FECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06928 PROGRESS REPORT (ON THE USE OF TRITIATED THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN THE STUDY OF LATERAL ROOT INITIATION), 1965-1966. TRITIATED THYMIDINE TRITIATED WATER ROOTS SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES RADIATION EFFECTS

06952 CONCENTRATIONS MAXIMALES ADMISSIBLES POUR LE TRITIUM ET SES COMPOSES (MAXIMUM PERMISSIBLE CONCENTRATION FOR TRITIUM AND ITS COMPOUNDS). TRITIATED WATER TRITIATED HYDROGEN TRITIATED THYMIDINE DNA METABOLISM MAXIMUM PERMISSIBLE CONCENTRATION

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA MICE RODENTS MAMMALS 06994 DATING DESERT GROUND WATER. C-14 RAINFALL PRECIPITATION (METEOROLOGICAL) RADIOACTIVE AGE DETERMINATION GROUND WATER DESERTS SAUDI ARABIA

07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. DNA TRITIATED THYMIDINE GENETIC EFFECTS BIOLOGICAL EFFECTS MUTATIONS RELATIVE BIOLOGICAL EFFECTIVENESS CELLS CELL NUCLEUS

07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE. TRITIATED THYMIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS RADIATION EFFECTS BIOLOGICAL EFFECTS GENETIC EFFECTS MUTATIONS

07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE. TRITIATED THYMIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS RADIATION EFFECTS BIOLOGICAL EFFECTS GENETIC EFFECTS MUTATIONS

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. LABELING TRITIATED THYMIDINE CHROMOSOMES DNA BIOLOGICAL EFFECTS RADIATION EFFECTS RETENTION GENETIC EFFECTS

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. TRITIATED THYMIDINE TRITIATED COMPOUNDS THYMIDINE METABOLISM CELLS MAMMALS RADIATION EFFECTS GENETIC EFFECTS LETHALITY RADIOACTIVE DECAY RADIATION DOSE DNA SYNTHESIS

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. TRITIATED THYMIDINE TRITIATED COMPOUNDS MICE RODENTS MAMMALS REPRODUCTION LITTER SIZE STERILITY BIOLOGICAL EFFECTS ORGANS RADIATION EFFECTS RADIATION DOSE

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. RATS RODENTS MAMMALS TRITIATED THYMIDINE LABELING

CELL NUCLEUS CELLS AUTORADIOGRAPHY TISSUES GROWTH RATE TOXICITY BONE MARROW CHROMOSOMES ERYTHROCYTES LEUCOCYTES ORGANS RADIATION EFFECTS TRITIATED COMPOUNDS

TRITIATED URIDINE

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. RADIATION EFFECTS RADIOACTIVE DECAY MORTALITY TRITIATED COMPOUNDS BACTERIA MICROORGANISMS PLANTS TRITIATED THYMIDINE TRITIATED URIDINE TRITIATED HISTIDINE ESCHERICHIA

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. TRITIATED URIDINE TRITIATED THYMIDINE TRITIATED COMPOUNDS DROSOPHILA DIPTERA INSECTS RADIOSENSITIVITY RADIATION EFFECTS GENETIC EFFECTS MUTATIONS SPECIFIC ACTIVITIES

TRITIATED WATER

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. MEASUREMENT SAMPLING RIVERS FLOW RATES TRACERS RADIOACTIVE TRACERS ADSORPTION NA-24 BR-82 P-32 HYDROLOGY EQUATIONS TRITIATED WATER

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. LABORATORY METHODS MEASUREMENT TRACERS RADIOACTIVE TRACERS FLOW RATES EDTA ORGANIC COMPOUNDS CR-51 GAMMA RADIATION RADIATION SOILS BR-82 RHODAMINE-B DYES TRITIATED WATER MOVEMENT GROUND WATER

05104 TRITIUM HEALTH PHYSICS CONSIDERATIONS. RADIOACTIVITY MAXIMUM PERMISSIBLE CONCENTRATION TOXICITY GASES MONITORING TRITIATED WATER TRITIATED GAS

05105 TRITIUM ET SAU TRITIE- DUREES LIMITEES DEPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE (TRITIUM AND TRITIATED WATER- TIME LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR REGENERATED ATMOSPHERES). CONTAMINATION ACCIDENTS ABSORPTION EQUATIONS MATHEMATICS TISSUES DIFFUSION TRITIATED WATER

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90 FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE SEASONAL VARIATIONS PERIODIC VARIATIONS STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). BODY WATER BODY FLUIDS BIOLOGICAL HALF-LIFE HALF-LIFE BLOOD ELIMINATION TRITIATED WATER RADIATION DOSE DOSE RATES MAN

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL FIELD STUDIES. TRITIATED WATER TRANSPIRATION TREES PLANTS TRACERS ABSORPTION SOIL MOISTURE DEPTH

06226 MONITORING FOR TRITIUM AT LOW LEVELS. ABSORPTION BETA RADIATION RADIATION URINE INSTRUMENTS BODY BURDEN MAN MONITORING TRITIATED WATER

06231 THE ATMOSPHERIC TRANSPORT OF TRITIUM. ATMOSPHERE (TERRESTRIAL) PRECIPITATION (METEOROLOGICAL) TRANSPORT EQUATIONS TRITIATED WATER CIRCULATION

06239 RESIDUAL TRITIUM AT SEDAN CRATER. PRECIPITATION (METEOROLOGICAL) TRANSPIRATION RADIATION EXPOSURE BODY WATER PLANTS BODY BURDEN SOIL MOISTURE SALSOLA BODY FLUIDS MAMMALS RODENTS SOILS THROWOUT NUCLEAR EXPLOSIONS SEDAN RATS RODENTS NEVADA TEST SITE COMPOSITAE FLOWERING PLANTS FLOWSHARE PROGRAM TRITIATED WATER KANGAROO RATS

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS RABBITS RODENTS DOGS MAN HORSES DOMESTIC ANIMALS LIVESTOCK RETENTION BODY FLUIDS BODY WATER METABOLISM MAMMALS TRITIATED WATER KANGAROO RATS

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCEN 1-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

06268 TRITIUM DISTRIBUTION IN GROUND WATER AROUND LARGE UNDERGROUND FUSION EXPLOSIONS. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS GROUND WATER FLOWSHARE PROGRAM DISTRIBUTION TRITIATED WATER

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. SOYBEANS CROPS LEGUMES PLANTS LEAVES PHOTOSYNTHESIS SPECIFIC ACTIVITIES CARBOHYDRATES SUGARS TRITIATED WATER

06273 DIFFUSION OF TRITIATED WATER IN SOILS. DIFFUSION SOILS TRACERS CLAYS DIFFUSION COEFFICIENT TRITIATED WATER

06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. DIFFUSION MONTMORILLONITE KAOLINITE TRACERS CLAYS SEDIMENTS SOILS DIFFUSION COEFFICIENT TRITIATED WATER

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. PARASITIC DISEASES (WORMS) BODY WATER BODY FLUIDS HALP-LIFE TRITIATED COMPOUNDS COWS DOMESTIC ANIMALS LIVESTOCK DISEASES TRACERS BIOLOGICAL HALP-LIFE ELIMINATION TRITIATED WATER

06276 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE ENVIRONMENT. BEHAVIOR ENVIRONMENTS OXIDATION FALLOUT RESIDENCE TIME STRATOSPHERE OCEANS TRITIATED WATER

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. BIOLOGICAL HALP-LIFE HALP-LIFE INHALATION AGE BODY FLUIDS MODELS BODY WATER EXTERNAL DOSE INTERNAL DOSE DOSE EQUIVALENTS RADIATION EXPOSURE DOSE ESTIMATION MAN FLOWSHARE PROGRAM TRITIATED WATER

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. TRACERS ROCK QUERCUS FAGACEAE PLANTS TREES ROOTS GROUND WATER ABSORPTION TRANSPIRATION DEPTH TRITIATED WATER HYDROBIOLOGY

06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS MICHX, PROGRESS REPORT. OPUNTIA CACTACEAE FLOWERING PLANTS PLANTS PHENOLOGY DIURNAL VARIATIONS PERIODIC VARIATIONS CS-134 MOVEMENT ANDROPOGON GRAMINAE TRACERS TISSUES TRITIATED WATER BIOGEOCHEMICAL CYCLING

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING T₂O, P-32, AND C-14. P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, APRIL 1 TO JUNE 30, 1969. PRECIPITATION (METEOROLOGICAL) RIVERS GASES INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR CANADA TRITIATED WATER

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 FLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. MICE MAMMALS RODENTS TISSUES BODY WATER BODY FLUIDS BIOLOGICAL HALP-LIFE HALP-LIFE ELIMINATION SPECIFIC ACTIVITIES RADIATION EXPOSURE TRITIATED WATER

06328 THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN. GASTROINTESTINAL TRACT MAN URINE INGESTION ABSORPTION BLOOD TRANSFER TRITIATED WATER

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS CANADA PERCH LAKE RADIOACTIVE WASTES WASTES

RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES GROUND WATER TRITIATED WATER

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. BETA RADIATION CELL GROWTH BIOLOGICAL EFFECTIVENESS MAMMALS TRITIATED THYMIDINE TRITIATED WATER TRITIATED COMPOUNDS RADIATION EFFECTS GROWTH RATE

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, ANCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT ANCHITKA ISLAND ALASKA EXPLOSIONS ALUTIAN ISLANDS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

06355 SEPARATION FACTOR OF TRITIATED WATER FRACTIONAL IN DISTILLATION. SEPARATION FACTOR SEPARATION TECHNIQUES TRITIATED WATER DISTILLATION

06364 MEASURING GROUND WATER MOVEMENT WITH RADIOACTIVE AND CHEMICAL TRACERS. TRACERS MOVEMENT HYDROLOGY TRITIATED WATER GROUND WATER

06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. BODY BURDEN SAFETY RADIATION EXPOSURE DOSE RATES WASHOUT TRITIATED WATER KR-85

06368 MOVEMENT AND DISTRIBUTION OF T₂O IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. FLOWERING PLANTS WATER VAPOR HELIANTHUS PLANTS NICOTIANA GASES TISSUES MOVEMENT DISTRIBUTION TRITIATED WATER TRANSPIRATION

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06370 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE. SOIL MOISTURE EVAPOTRANSPIRATION TRITIATED WATER EVAPORATION DEPTH

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN FLOWSHARE EVENTS. FLOWSHARE PROGRAM SEDAN NUCLEAR EXPLOSIONS PLANTS MAMMALS SOILS EXPLOSIONS NUCLEAR CRATERS TRITIATED WATER

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM II. DISTRIBUTION COSMIC RADIATION SURFACE WATERS RADIATION RAINFALL PRECIPITATION (METEOROLOGICAL) TRITIATED WATER SEA WATER FRESH WATER WINES

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. ESCHERICHIA METABOLISM BIOCHEMISTRY CARBOHYDRATES LIPIDS NUCLEIC ACIDS TRITIATED WATER GLYCOLYTIC SCHEME BIOSYNTHESIS PROTEINS

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALP-LIFE MICE URINE RODENTS

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE. PERCH LAKE CANADA LAKES TRITIATED WATER RADIOACTIVE WASTE DISPOSAL CONCENTRATION MIXING DISPERSION

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). METABOLISM TAGGING BLOOD PROTEINS FATTY ACIDS NITROGEN COMPOUNDS ORGANIC COMPOUNDS POLYMERS GLUCOSE CARBOHYDRATES LIPIDS CHOLESTEROL TRITIATED WATER RABBITS RODENTS

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE.
ENZYMES CHEMICAL REACTIONS TAGGING
TRITIATED WATER MUSCLE TISSUES RABBITS RODENTS

06437 THE MECHANISM OF THE TRIOSEPHOSPHATE
ISOMERASE REACTION. CHEMICAL REACTIONS WATER
ENZYMES TAGGING TRITIATED WATER ISOMERIZATION
MUSCLE

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON
RELEASE TO THE ENVIRONMENT. NUCLEAR REACTORS
ENVIRONMENTAL RADIATION SURFACE WATERS RADIATION
TRITIATED WATER NUCLEAR POWER INDUSTRY
GROUND WATER HYDROLOGICAL CYCLING

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE
INCUBATED IN TRITIATED WATER. FATTY ACIDS
ORGANIC COMPOUNDS TISSUES C-14 GLUCOSE
CARBOHYDRATES DEUTERIUM INSULIN TRITIATED WATER
BIOCHEMISTRY

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS.
NUCLEAR CRATERS CONTAMINATION TRITIATED WATER
SR-90 RU-106 CS-144 CS-137 GROUND WATER SEDAN
FLOWSHARE PROGRAM NEVADA TEST SITE

06462 COMPARISONS OF TRITIATED THYMIDINE,
TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN
INDUCING CHROMOSOMAL ABERRATIONS. THYMIDINE
NUCLEIC ACIDS RADIATION CO-60 GAMMA RADIATION
CELLS DNA CHROMOSOMES TRITIATED WATER
BETA RADIATION MUTATIONS TRITIATED THYMIDINE
RADIATION EFFECTS HAMSTERS RODENTS

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL
COMPOSITION OF NATURAL GAS FROM THE CAVITY
PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT.
CHEMICAL COMPOSITION CHEMICAL ANALYSIS
RADIOCHEMICAL ANALYSIS NUCLEAR EXPLOSIONS
NATURAL GAS PROJECT GASBUGGY ANALYSIS KR-85
EXPLOSIONS METHANE ETHANE HYDROGEN
CARBON DIOXIDE CONCENTRATION TRITIATED HYDROGEN
TRITIATED WATER

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH
TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE
RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING
URINE TRITIATED WATER SAFETY
TRITIATED WATER VAPOR CHALK RIVER

06492 THE RADIATION HAZARD TO WORKERS USING
TRITIATED LUMINOUS COMPOUNDS.
MAXIMUM PERMISSIBLE CONCENTRATION
CHEMICAL COMPOUNDS HAZARDS URINE MAN
INHALATION TRITIATED WATER VAPOR TRITIATED WATER
TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS
BODY BURDEN

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN
MAN. RETENTION EXCRETION MAN PHYSIOLOGY
TOXICITY TRACERS RADIOACTIVE TRACERS
MAXIMUM PERMISSIBLE CONCENTRATION SKIN
GASTROINTESTINAL TRACT ABSORPTION
TRITIATED WATER TRITIATED HYDROGEN BODY BURDEN
RADIATION EXPOSURE RADIOLOGICAL HAZARDS
METABOLISM BIOLOGICAL HALF-LIFE

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN
SOLUTION THROUGH POROUS MEDIA. TRANSPORT
RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL
RADIOACTIVE TRACERS TRACERS SOILS
TRITIATED WATER MOVEMENT GROUND WATER

06607 A CARBON DIOXIDE COLLECTION ACCESSORY FOR
THE RAPID COMBUSTION APPARATUS FOR PREPARATION OF
BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION
ANALYSIS INSTRUMENTS CARBON DIOXIDE
LIQUID SCINTILLATION COUNTING
RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS
TRITIATED WATER

06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW
AT THE SAVANNAH RIVER PLANT. GROUND WATER
SOIL MOISTURE DEUTERIUM NUCLEAR FUEL PLANTS
RADIOACTIVE WASTE DISPOSAL SAVANNAH RIVER PLANT
TRACERS TRITIATED WATER MOVEMENT
RADIOACTIVE WASTES

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION
MAPPING WITH TRITIUM. CONTAMINATION
RADIOACTIVE TRACERS TRACERS
STACK DISPERSION MAPPING NUCLEAR FUEL PLANTS
TRITIATED WATER ATMOSPHERE (TERRESTRIAL)
DISTILLATION SCINTILLATION COUNTING

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE
NATIONAL REACTOR TESTING STATION.
NATIONAL REACTOR TESTING STATION GROUND WATER
HYDROLOGY ENVIRONMENTAL RADIATION CONTAMINATION
SURFACE WATERS RAINFALL TRITIATED WATER

NUCLEAR FUEL PLANTS
PRECIPITATION (METEOROLOGICAL) RAINOUT
CONCENTRATION RADIOACTIVE WASTES

06625 URINARY EXCRETION OF TRITIUM FOLLOWING
EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL.
URINE EXCRETION EQUATIONS ANALYSIS MODELS
WHOLE BODY EXPOSURE RADIATION EXPOSURE
MATHEMATICAL ANALYSIS MATHEMATICAL MODELS
TRITIATED WATER DOSE ESTIMATION MAN

06635 BIOLOGY AND HEALTH PHYSICS DIVISION,
PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968.
PRECIPITATION (METEOROLOGICAL) RIVERS SKIN
ABSORPTION WATER VAPOR GASES
ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS
EQUIPMENT CANADA ALASKA GREENLAND
TRITIATED WATER

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED
WITH TRITIATED WATER. TRITIATED WATER
INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY
RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR
TRITIATED WATER VAPOR SKIN

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND
AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS.
LUMINESCERS RADIOACTIVE LUMINOUS PAINTS
TRITIATED WATER RADIATION PR-147 RA-226
MONITORING MAN

06780 MEASURING SUBSURFACE SPRING FLOW WITH
RADIOTRACERS. TRACERS TRITIATED WATER SPRINGS
SUBSURFACE FLOW AQUIPERS

06785 LABELING LAKE WATER WITH TRITIUM.
LAKE MCWILLAN LAKES LABELING TRITIATED WATER
TRACERS HYDROLOGY

06789 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC
ORGANISMS FINAL REPORT JUNE 1, 1962 THROUGH JULY
31, 1964. TRITIUM OXIDE TOXIC EFFECTS
TRITIATED WATER BODY WATER RADIATION EFFECTS
AQUATIC LIFE

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND
GLYCINE BETWEEN MATERIAL AND PORTAL BODY FLUIDS IN
RABBITS AND PIGS. C-14 UREA GLYCINE
PERITONEUM PIGS RABBITS ALLANTOIC SAC
TRITIATED WATER TRANSFER BODY FLUIDS
TRITIATED WATER

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND
GLYCINE BETWEEN MATERIAL AND PORTAL BODY FLUIDS IN
RABBITS AND PIGS. C-14 UREA GLYCINE
PERITONEUM PIGS RABBITS ALLANTOIC SAC
TRITIATED WATER TRANSFER BODY FLUIDS
TRITIATED WATER

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS
AFTER IRRADIATION. ORGANS MICE TRITIATED WATER
IRRADIATION SKIN WHOLE BODY EXPOSURE
RADIATION EFFECTS

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND
EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND
CHEMICAL ANALYTICAL RESULTS. KR-85 AR-37 AR-39
OXIDES PROJECT GASBUGGY CONCENTRATION C-14
TRITIATED WATER

06830 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU
DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON
THE TRANSFORMATIONS OF WATER IN LEAVES WITH
TRITIATED WATER). TRITIATED WATER PHOTOSYNTHESIS
LEAVES TRANSPIRATION TRANSFORMATIONS
MASS DISCRIMINATION LIQUID SCINTILLATION COUNTING

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS
ASSOCIATED WITH ACUTE EXPOSURE TO HIGH
CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER
RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES
BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION
WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE
SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION
VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN
RESPIRATORY TRACT BODY FLUIDS
TRITIATED WATER VAPOR

06836 THE SPECIFIC ACTIVITY OF TRITIUM IN THE
ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN
FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN
BODY FLUIDS. TRITIATED WATER FATS SKIN
BODY FLUIDS RETENTION SPECIFIC ACTIVITIES
TISSUES BIOLOGICAL HALF-LIFE

06839 A METHOD OF STUDYING METABOLIC REACTIONS
DURING BETA-IRRADIATION. CELLS CHLORELLA
METABOLISM BETA RADIATION TRITIATED WATER

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. TRITIATED WATER BETA RADIATION CYSTAMINE GERMINATION TIME CELLULAR PERMEABILITY RESPIRATORY QUOTIENT PERIOD OF LAG RHODOTORULA PHYSIOLOGY METABOLISM

06843 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR TRITIATED WATER AND TRITIATED THYMIDINE. MAXIMUM PERMISSIBLE CONCENTRATION DOSE ESTIMATION TRITIATED WATER TRITIATED THYMIDINE BETA RADIATION RADIATION CONCENTRATION ABSORBED DOSE

06846 ESTIMATION OF DILUTION RATE FACTORS FOR TRITIATED WATER VAPOUR FROM A REACTOR STACK. TRITIATED WATER NUCLEAR REACTORS DILUTION RATE WATER VAPOR

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL TRITIATED WATER SOILS RAINFALL LEACHING SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) MATHEMATICAL MODELS DISTRIBUTION

06850 DIFFUSION OF TRITIATED WATER (H-3 H-1 0-16) IN AGAR GEL AND WATER. TRITIATED WATER DIFFUSION COEFFICIENT AGAR GEL

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. C-14 BLOOD TRITIATED WATER RATS TRITIATED POLIC ACID TRITIATED CORTICOSTEROIDS TRITIATED THYMIDINE TRITIATED SEX-HORMONES TRITIATED COMPOUNDS C-14 LABELLED COMPOUNDS TOXICITY

06856 ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER. TRITIATED HYDROGEN TRITIATED WATER TRITIATED METHANE C-14 ATMOSPHERIC NUCLEAR TESTING TRITIATED COMPOUNDS STRATOSPHERE

06858 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). METABOLISM TRITIATED WATER MICE LIVER ORGANIC CELL SUBSTANCES BRAIN TISSUES IRRADIATION

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. CO-60 RADIUM BETA RADIATION GAMMA RADIATION IRRADIATION RADIATION DOSE RATES RELATIVE BIOLOGICAL EFFECTIVENESS CELLS TRITIATED WATER

06860 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. TRITIATED WATER RABBITS RATS TOTAL BODY WATER RADIATION SPECIFIC ACTIVITIES BODY WATER

06863 VARIAZIONI DELLA CRESCITA FACIDA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E COLI)). TRITIATED WATER BACTERIOPHAGES RADIATION BETA RADIATION MICROORGANISMS HOSTS BACTERIA GROWTH RADIATION EFFECTS

06866 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. TRITIATED WATER ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT CL-36 UPTAKE TRANSPORT

06868 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER VAPOR TRITIATED WATER STRATOSPHERE TROPOSPHERE GASES

06869 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). TRITIATED WATER DUCKS ABSORPTION BIRDS PLASMA

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS PATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

06874 THE MAXIMUM PERMISSIBLE CONCENTRATION OF GASEOUS TRITIUM IN THE AIR OF WORKING PREMISES. TRITIUM OXIDE TRITIATED WATER MAXIMUM PERMISSIBLE CONCENTRATION

CUTANEOUS PENETRATION

06875 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION. TRITIATED WATER ROOT SYSTEM ROOTS PLANTS HELIANTHUS TRANSPIRATION UPTAKE FLOWERING PLANTS

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE TRITIATED WATER MAMMALIAN CELLS CELLS CULTURE MEDIUM DOSE RATES RADIATION RADIATION EFFECTS GROWTH RATE

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. KR-85 TRITIATED HYDROGEN TRITIATED METHANE TRITIATED ETHANE TRITIATED WATER CAVITY GAS PROJECT GASBUGGY FLOWSHARE PROGRAM

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. FLOWSHARE PROGRAM RU-106 SB-125 CS-137 RADIATION TRITIATED WATER CANE GREEN RIVER RIVERS GAMMA RADIATION CONTAMINATION OIL SHALE

06884 ORIGIN OF TRITIUM IN HYDROTHERMAL SOLUTIONS. TRITIATED WATER HYDROTHERMAL SOLUTIONS GEOTHERMAL WATERS URANIUM THORIUM

06885 TRITIUM IN SOUTHERN HEMISPHERE PRECIPITATION 1953-1964. TRITIATED WATER SOUTHERN HEMISPHERE FALLOUT TROPOSPHERE STRATOSPHERE PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06886 RADIAL EXCHANGE OF LABELED WATER IN INTACT MAIZE ROOTS. TRITIATED WATER ROOTS CORTEX ENDODERMIS METABOLISM DIFFUSION COEFFICIENT DIFFUSION UPTAKE

06887 PROJECT GNOME, ISOTOPE PROGRAM; FINAL REPORT. TRITIATED WATER PROJECT GNOME SALT MEDIUM FISSION PRODUCTS FRACTIONATION UNDERGROUND NUCLEAR EXPLOSIONS

06889 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1962. BIOLOGICAL HALF-LIFE TRITIATED WATER MAN BODY WEIGHT AGE TEMPERATURE HALF-LIFE EFFECTIVE HALF-LIFE BIOASSAY

06899 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1968. TRITIATED WATER SHALE DISTRIBUTION THERMAL ANALYSIS CANE FLOWSHARE PROGRAM CONTAMINATION OIL SHALE

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE) - PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1969. FLOWSHARE PROGRAM TRITIATED WATER SHALE DISTRIBUTION CANE THERMAL ANALYSIS NATURAL GAS HYDROGEN CONTAMINATION

06923 THE METABOLISM AND PATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE FECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06928 PROGRESS REPORT (ON THE USE OF TRITIATED THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN THE STUDY OF LATERAL ROOT INITIATION), 1965-1966. TRITIATED THYMIDINE TRITIATED WATER ROOTS SEEDLINGS PLANTS IRRADIATION GROWTH DOSE RATES RADIATION EFFECTS

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM. PE-55 NI-59 RADIATION MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER RADIOLOGICAL HAZARDS CONTAMINATION NUCLEAR REACTORS

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE L'ATMOSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION). TRITIATED HYDROGEN TRITIATED METHANE TRITIATED WATER COSMIC RADIATION RADIATION REACTORS SOIL CONTAMINATION NUCLEAR EXPLOSIONS

06940 SURVEY OF AVAILABLE DATA OF TRITIUM. TRITIATED WATER RADIATION HALF-LIFE ENERGY BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT IONIZATION ENERGY DISSOCIATION ENERGY RADIOACTIVE DECAY

06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS. GAS-GRAPHITE REACTORS HEAVY WATER REACTORS LATINA REACTOR NUCLEAR REACTORS ACTIVATION HAZARDS TRITIATED WATER RADIOLOGICAL HAZARDS

06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. HEAVY WATER REACTORS TRITIUM PERMEABILITY POLYVINYL CHLORIDE POLYMER FILMS TRITIATED WATER RADIOLOGICAL HAZARDS NUCLEAR REACTORS

06945 DETECTION ET MEASURE DE LA CONTAMINATION PAR LE TRITIUM DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF GASES AND VAPORS BY TRITIUM). AR-41 TRITIATED WATER TRITIUM DETECTION MEASUREMENT

06946 DETECTION ET MEASURE DE LA CONTAMINATION DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF THE CONTAMINATION OF GASES AND VAPORS). TRITIATED WATER OXIDATION FISSION PRODUCTS METALLIC TRITIDES TRITIATED HYDROGEN CONTAMINATION

06952 CONCENTRATIONS MAXIMALES ADMISSIBLES POUR LE TRITIUM ET SES COMPOSES (MAXIMUM PERMISSIBLE CONCENTRATION FOR TRITIUM AND ITS COMPOUNDS). TRITIATED WATER TRITIATED HYDROGEN TRITIATED THYMIDINE DNA METABOLISM MAXIMUM PERMISSIBLE CONCENTRATION

06955 MESURE DE LA CONTAMINATION DU CORPS HUMAIN (MEASUREMENT OF THE CONTAMINATION OF THE HUMAN BODY). THYMIDINE TRITIATED HYDROGEN TRITIATED WATER URINE MAN CONTAMINATION

06959 A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS PROG SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER. FROGS AQUATIC LIFE PERMEABILITY COEFFICIENT TRITIATED WATER ISOTOPE EFFECT SKIN TRANSFER

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. CONCENTRATION ATMOSPHERIC TRITIUM TRITIATED WATER DIURNAL VARIATIONS PERIODIC VARIATIONS TRANSPORT SEA WATER METEOROLOGY MIXING AIR MASSES

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL ALTITUDES. TRITIATED WATER ICE SEASONAL VARIATIONS SNOW CONCENTRATION DEPOSITION MT. EVEREST RADIOACTIVE AGE DETERMINATION

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED POLIC ACID AND TRITIATED WATER TO THE RAT. TRITIATED WATER TRITIATED COMPOUNDS TRITIATED POLIC ACID DISTRIBUTION RETENTION RATS RODENTS MAMMALS RADIATION DOSE LIVER BONE MARROW KIDNEY ORGANS TOXICITY BIOLOGICAL HALF-LIFE HALF-LIFE CONCENTRATION DOSE RATES

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSASYVANIYE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

06995 DETERMINATION OF TOTAL BODY WATER IN HEALTHY FILIPINO SUBJECTS WITH THE USE OF TRITIATED WATER. BODY WATER TRITIATED WATER MAN PHILIPPINES

07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. RATS RODENTS MAMMALS TRITIATED WATER RADIATION DOSE MAMMALIAN DEVELOPMENT RADIATION EFFECTS BIOLOGICAL EFFECTS ORGANS FETUS EMBRYO

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. SAMPLING TRITIATED WATER SPECIFIC ACTIVITIES SEA WATER SALINITY TEMPERATURE THERMOCLINE MIXING TRANSPORT ATLANTIC OCEAN OCEANS CURRENTS DEPTH EQUATIONS EQUATORIAL CURRENTS

07016 HURRICANE ITIUM III; EVAPORATION OF SEA WATER IN HURRICANE FAITH 1966. TRITIATED WATER HURRICANES DESTRUCTIVE FACTORS EVAPORATION SEA WATER RADIAL DISTRIBUTION RAINFALL DISTRIBUTION EQUATIONS METEOROLOGY

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPES PRODUCTION TRITIATED WATER UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

07023 VERWENDUNG VON TRIEBTEN WASSER (THO) ZUR FORTLAUFENDEN REGISTRIERUNG DES TRANSPIRATIONSVERLAUFES BEI IEKTEN. (USE OF TRITIATED WATER FOR CONTINUOUS REGISTRATION OF INSECT TRANSPIRATION.) TRITIATED WATER INSECTS TRANSPIRATION BODY WATER RADIOBIOLOGY

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTEES AVEC DE L'EAU CONTAMINEE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) TRITIATED WATER TRANSFER DISTRIBUTION MILK DAIRY PRODUCTS COWS DOMESTIC ANIMALS LIVESTOCK BODY WATER SPECIFIC ACTIVITIES PHYSIOLOGY

07030 RADIOLOGICAL PROTECTION PROBLEMS OF TRITIUM. TRITIATED WATER VAPOR RADIOLOGICAL HAZARDS TRITIATED WATER RADIOLOGICAL SAFETY

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS. NUCLEAR REACTORS REACTORS NUCLEAR POWER WASTES RADIOACTIVE WASTES SURFACE WATERS CONCENTRATION SAMPLING TRITIATED WATER

07046 THE MOVEMENT OF TRITIATED WATER IN PLANTS. MOVEMENT TRITIATED WATER PLANTS SOYBEANS TRANSPORT TRANSLOCATION MATHEMATICAL MODELS MODELS TRACERS

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM METHOD OF MEASURING TOTAL BODY WATER. BODY WATER RADIOLOGICAL HAZARDS TRITIATED WATER RADIOBIOLOGY RADIATION EXPOSURE WHOLE BODY EXPOSURE

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1966. TRITIATED WATER FLOWSHARE PROGRAM CANE NUCLEAR CHIMNEYS RECOVERY COPPER METALS OIL LEACHING CONCENTRATION OIL SHALE

07056 THE PERCH LAKE EVAPORATION STUDY. RADIOACTIVE TRACERS TRACERS MOVEMENT HYDROLOGICAL CYCLING TRITIATED WATER VAPOR EVAPORATION TRITIATED WATER GROUND WATER WATER SURFACE WATERS

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE NATURAL WATER OF SOUTHERN OAHU, HAWAII. CONCENTRATION RAINWATER GROUND WATER HAWAII TRITIATED WATER ELECTROLYTIC ENRICHMENT LIQUID SCINTILLATION COUNTING

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT FY-1967. RUNOFF TRITIATED WATER EVAPORATION SPECIFIC ACTIVITIES SOIL MOISTURE MOVEMENT RAINFORESTS FORESTS PUERTO RICO SOILS RESIDENCE TIME

07070 THE BIOLOGICAL EFFECTS OF TRITIUM. BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER RADIATION DOSE MODELS TISSUES MAN RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS ANIMALS REVIEW

07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN.
WASHOUT TRITIATED WATER WATER VAPOR RAINWATER
EXCHANGE SPECIFIC ACTIVITIES STACK EMISSIONS

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES
THROUGH GEOLOGIC MEDIA. TRITIATED WATER
FLOWSHARE PROGRAM MOVEMENT CONTAMINATION
GROUND WATER UNDERGROUND NUCLEAR EXPLOSIONS
TRANSPORT GASES DIFFUSION KR-85
DIFFUSION EQUATION EQUATIONS

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF
MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM.
MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER
TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION
TISSUES BODY WATER MAN RADIATION EXPOSURE

07101 EVALUATION OF POTENTIAL HAZARDS FROM
TRITIUM WATER. RADIOLOGICAL HAZARDS
TRITIATED WATER BIOLOGICAL DOSE EQUIVALENTS
EXCRETION CONCENTRATION ORGANS DNA
GENETIC EFFECTS

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE
NATIONAL LABORATORY; REPORT FOR 1964.
ENVIRONMENTAL MONITORING
ARGONNE NATIONAL LABORATORY RADIOACTIVITY
AIR MONITORING MONITORING CONTAMINATION
SAWMILL CREEK DES PLAINES RIVER RIVERS
RADIOACTIVE WASTES SR-90 TRITIATED WATER
ALPHA RADIATION BETA RADIATION SR-89 SA-140
CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM
SURFACE WATERS VEGETATION SOILS

07119 TRITIUM DETERMINATIONS ON BORE WATERS IN
THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS.
GROUND WATER CHLORIDES CONCENTRATION
CIRCULATION DILUTION NEW ZEALAND MIXING
TRITIATED WATER BORES GEOTHERMAL WATERS

07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII.
MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT
MUTAGENIC AGENTS. MUTATIONS RADIATION EFFECTS
GENETIC EFFECTS PEAS TRITIATED WATER VEGETABLES

07148 RADIATION AND ISOTOPE TECHNOLOGY/IN LATIN
AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN
NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN,
PUERTO RICO, 4-6 MAY 1969. MOVEMENT
MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS
CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME
TRITIATED WATER SOILS LITTER LEAVES TREES
TROPICS

07151 CONSEQUENCES SANITAIRES DES REJETS
ATMOSPHERIQUES DE VAPEUR D'EAU TRITIÉE. (EFFECTS
ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED
STEAM.) TRITIATED WATER TRITIATED WATER VAPOR
DISPERSION CONTAMINATION
ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS
IRRADIATION MAN RADIATION DOSE
RADIATION EXPOSURE INGESTION AGE FOODS

07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF
CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED
WATER. TRITIATED WATER IRRADIATION RATS
RODENTS MAMMALS PESTUS ORGANS RADIATION EFFECTS
RECOVERY STERILITY LITTER SIZE
RELATIVE BIOLOGICAL EFFECTIVENESS REPRODUCTION
RADIATION DOSE BRAIN GONADS HEART KIDNEY
THYMUS LIVER LUNGS

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH
CONCENTRATIONS OF TRITIUM GAS.
RADIOLOGICAL HAZARDS BIOLOGICAL FIXATION
FIXATION TRITIATED WATER RADIATION DOSE
INHALATION BIOLOGICAL EFFECTS MORTALITY MICE
RODENTS

07165 SALIVA-SERUM RATIOS OF TRITIUM AFTER THE
ADMINISTRATION OF TRITIATED WATER.
TRITIATED WATER CONCENTRATION SALIVA SERUM MAN

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS
SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED
WATER BY RAT ADIPOSE TISSUE. TRITIATED WATER
TRITIATED GLUCOSE TRITIATED COMPOUNDS RATS
RODENTS MAMMALS FATTY ACIDS RETENTION
DISTRIBUTION

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS
DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.
TRITIATED WATER TRITIATED WATER VAPOR
SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION
ATMOSPHERE (TERRESTRIAL) SOILS LOAM

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS
(CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER
30, 1970. CANE TRITIATED HYDROGEN
TRITIATED METHANE SHALE CONTAMINATION

TRITIATED WATER NATURAL GAS FLOWSHARE PROGRAM
NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN
FOREST. TRITIATED WATER MOVEMENT SOILS
RAINFORESTS LITTER ROOTS RESIDENCE TIME
PUERTO RICO TROPICS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC
POWER. BIOLOGICAL HALF-LIFE NUCLEAR REACTORS
CONCENTRATION SURFACE WATERS
RADIOACTIVE WASTE DISPOSAL FOOD-CHAINS
RADIATION DOSE RADIOLOGICAL HAZARDS
TRITIATED WATER MUTATIONS RADIATION EFFECTS
GENETIC EFFECTS NUCLEAR POWER INDUSTRY PU-239

TRITIATED WATER VAPOR

06464 TRITIATED MOISTURE IN THE ATMOSPHERE
SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT.
NUCLEAR FUEL PLANTS ATMOSPHERE (TERRESTRIAL)
MOISTURE SAMPLING TRITIATED WATER VAPOR

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH
TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE
RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING
URINE TRITIATED WATER SAFETY
TRITIATED WATER VAPOR CHALK RIVER

06492 THE RADIATION HAZARD TO WORKERS USING
TRITIATED LUMINOUS COMPOUNDS.
MAXIMUM PERMISSIBLE CONCENTRATION
CHEMICAL COMPOUNDS HAZARDS URINE MAN
INHALATION TRITIATED WATER VAPOR TRITIATED WATER
TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS
BODY BURDEN

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF
RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES.
RADIOACTIVE TRACERS TRACERS TRANSFER GASES
WATER VAPOR PRECIPITATION (METEOROLOGICAL)
IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06613 DIFFUSION OF TRITIATED MOISTURE FROM A
STREAM. STREAMS ATMOSPHERE (TERRESTRIAL)
MOISTURE DIFFUSION RADIOACTIVE WASTE DISPOSAL
TRITIATED WATER VAPOR RADIOACTIVE WASTES

06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR
LA VAPEUR D'EAU TRITIÉE AUPRÈS DE LA PILE BL 3
(DETECTION OF THE CONTAMINATION OF AIR BY
TRITIATED WATER VAPOR AROUND THE REACTOR BL 3).
AIR POLLUTION WATER VAPOR CONTAMINATION
POLLUTION GASES EQUIPMENT NUCLEAR REACTORS
TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED
WITH TRITIATED WATER. TRITIATED WATER
INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY
RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR
TRITIATED WATER VAPOR SKIN

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE
SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION
VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN
RESPIRATORY TRACT BODY FLUIDS
TRITIATED WATER VAPOR

06868 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN
AND ATMOSPHERIC METHANE. TRITIATED HYDROGEN
TRITIATED METHANE TRITIATED WATER VAPOR
TRITIATED WATER STRATOSPHERE TROPOSPHERE GASES

06953 TRITIUM ET VAPEUR D'EAU TRITIÉE- DUREES
LIMITES D'EXPOSITION ACCIDENTELLE EN ATMOSPHERE
STABLE OU RENOUVELÉE (TRITIUM AND TRITIATED WATER
VAPOR- TIME LIMITS FOR ACCIDENTAL EXPOSURE IN
STABLE OR RENEWED ATMOSPHERE).
TRITIATED WATER VAPOR RESPIRATORY INTAKE
OXIDATION VENTILATION RADIATION EXPOSURE

07030 RADIOLOGICAL PROTECTION PROBLEMS OF
TRITIUM. TRITIATED WATER VAPOR
RADIOLOGICAL HAZARDS TRITIATED WATER
RADIOLOGICAL SAFETY

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM
DANS LES EAUX DE PRÉCIPITATION EN FRANCE.
(EVOLUTION OF THE TRITIUM CONCENTRATION IN
PRECIPITATION IN FRANCE.) CONCENTRATION
PRECIPITATION (METEOROLOGICAL) FRANCE
SEASONAL VARIATIONS PERIODIC VARIATIONS
TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE
STRATOSPHERE SR-90

07056 THE PERCH LAKE EVAPORATION STUDY.
RADIOACTIVE TRACERS TRACERS MOVEMENT
HYDROLOGICAL CYCLING TRITIATED WATER VAPOR
EVAPORATION TRITIATED WATER GROUND WATER WATER
SURFACE WATERS

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF
MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM.
MAXIMUM PERMISSIBLE CONCENTRATION TRITIATED WATER
TRITIATED WATER VAPOR DOSIMETRY CONCENTRATION
TISSUES BODY WATER MAN RADIATION EXPOSURE

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED
FROM NUCLEAR-BROKEN SHALE. CONTAMINATION
OIL SHALE OIL RECOVERY TRITIATED WATER VAPOR
TRITIATED HYDROGEN TRITIATED METHANE
TRITIATED ETHANE RETORTED OIL

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A
PLUME USING TRITIATED MOISTURE.
TRITIATED WATER VAPOR RADIOACTIVE TRACERS
TRACERS NUCLEAR FUEL PLANTS STACK DISPERSION
RADIOACTIVE WASTES EFFLUENT AIR
LIQUID SCINTILLATION COUNTING

07151 CONSEQUENCES SANITAIRES DES REJETS
ATMOSPHERIQUES DE VAPEUR D'EAU TRITIÉE. (EFFECTS
ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED
STEAM.) TRITIATED WATER TRITIATED WATER VAPOR
DISPERSION CONTAMINATION
ATMOSPHERE (TERRESTRIAL) RAINWATER SOILS PLANTS
IRRADIATION MAN RADIATION DOSE
RADIATION EXPOSURE INGESTION AGE FOODS

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS
DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE.
TRITIATED WATER TRITIATED WATER VAPOR
SOIL MOISTURE EVAPORATION DEPTH CONCENTRATION
ATMOSPHERE (TERRESTRIAL) SOILS LOAM

07177 A SURVEILLANCE TECHNIQUE FOR TRITIATED
MOISTURE IN THE ATMOSPHERE.
TRITIATED WATER VAPOR MONITORING

TRITIUM DETECTION

06945 DETECTION ET MESURE DE LA CONTAMINATION
PAR LE TRITIUM DES GAZ ET VAPEURS (DETECTION AND
MEASUREMENT OF GASES AND VAPORS BY TRITIUM).
AR-41 TRITIATED WATER TRITIUM DETECTION
MEASUREMENT

TRITIUM EXCHANGE

06940 SURVEY OF AVAILABLE DATA OF TRITIUM.
TRITIATED WATER RADIATION HALF-LIFE ENERGY
BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS
MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT
IONIZATION ENERGY DISSOCIATION ENERGY
RADIOACTIVE DECAY

TRITIUM GAS

05051 SOME SECOND THOUGHTS ON TRITIUM
CONTAMINATION. CONTAMINATION RADIOACTIVITY
GASES DIFFUSION WASTE DISPOSAL
RADIOACTIVE WASTE DISPOSAL TRITIUM GAS
RADIOLOGICAL HAZARDS

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE
AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION
METABOLISM KIDNEY BEANS BEANS PH CROPS
LEGUMES PLANTS VEGETABLES RETENTION LIGHT
TRITIUM OXIDE TRITIUM GAS

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT.
METABOLISM RATS MAMMALS BLOOD RODENTS
INHALATION RETENTION WHOLE BODY EXPOSURE
TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06346 AN APPROXIMATION OF RADIATION DOSE
RESULTING FROM AN ACCIDENTAL RELEASE OF TRITIUM
GAS. GASES DOSE ESTIMATION RADIATION
ACCIDENTS TRITIUM GAS

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM
IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS.
TISSUES GASES RATS MAMMALS RODENTS
WHOLE BODY EXPOSURE RADIATION EXPOSURE
TRITIUM GAS TRITIUM OXIDE DISTRIBUTION
RETENTION

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT
FOLLOWING EXPOSURE TO TRITIUM GAS. RATS MAMMALS
RODENTS ABSORPTION TRITIUM GAS TRITIUM OXIDE
DISTRIBUTION METABOLISM

06794 FISSION PRODUCT TRITIUM IN FUEL
REPROCESSING WASTES. URANIUM FISSION
RADIOLOGICAL HAZARDS RADIOACTIVE WASTES
TRITIUM OXIDE DECONTAMINATION CONCENTRATION
TRITIUM GAS RADIOACTIVE WASTE DISPOSAL
FISSION PRODUCTS

06900 A STUDY OF THE DIFFUSION AND MIXING OF

TRITIUM GAS IN AIR. ATMOSPHERE (TERRESTRIAL)
DIFFUSION MIXING TRITIUM GAS

06940 SURVEY OF AVAILABLE DATA OF TRITIUM.
TRITIATED WATER RADIATION HALF-LIFE ENERGY
BREMSSTRAHLUNG TRITIUM EXCHANGE TRITIUM GAS
MAXIMUM PERMISSIBLE CONCENTRATION ISOTOPE EFFECT
IONIZATION ENERGY DISSOCIATION ENERGY
RADIOACTIVE DECAY

07070 THE BIOLOGICAL EFFECTS OF TRITIUM.
BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER
RADIATION DOSE MODELS TISSUES MAN
RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS
ANIMALS REVIEW

TRITIUM HYDRIDE

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND
TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND
HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF
TRITIUM AND TRITIUM HYDRIDE. THERMODYNAMICS
HEAT CAPACITY ENTROPY ENERGY TRITIUM HYDRIDE
RADIOACTIVITY DISSOCIATION
THERMODYNAMIC EQUILIBRIUM

TRITIUM OXIDE

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER V. THE PREDOMINANTLY NON-DYNAMIC
STATE OF BODY CONSTITUENTS IN THE RAT. TRACERS
RATS MAMMALS RODENTS METABOLISM HYDROGEN
TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE ORGANS
TRITIUM OXIDE BODY WATER

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM
EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION
DEER PATS MAMMALS BODY WATER BODY FLUIDS
RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY
SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE
T/H RATIO

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE
AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION
METABOLISM KIDNEY BEANS BEANS PH CROPS
LEGUMES PLANTS VEGETABLES RETENTION LIGHT
TRITIUM OXIDE TRITIUM GAS

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND
TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE
OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS
MAN PRESSURE WHOLE BODY EXPOSURE
RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT
AND SHEEP. BODY FLUIDS BODY WATER LIPIDS
ORGANIC COMPOUNDS NITROGEN COMPOUNDS PROTEINS
ORGANS TISSUES HALF-LIFE BIOLOGICAL HALF-LIFE
OXIDES TRITIUM OXIDE LIVESTOCK DOMESTIC ANIMALS
SHEEP RODENTS MAMMALS RATS RETENTION

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND
TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE
TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS
TISSUES DEUTERIUM T/D RATIO

06344 COMPARATIVE METABOLISM OF PROTIUM,
DEUTERIUM AND TRITIUM IN THE BEAN PLANT.
METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS
VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE
PROTIUM OXIDE OXIDES DEUTERIUM

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION
OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM
OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION
TISSUES RATS ORGANS RETENTION MAMMALS RODENTS
BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP
DOMESTIC ANIMALS LIVESTOCK DOSE RATES
WHOLE BODY EXPOSURE

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM
IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS.
TISSUES GASES RATS MAMMALS RODENTS
WHOLE BODY EXPOSURE RADIATION EXPOSURE
TRITIUM GAS TRITIUM OXIDE DISTRIBUTION
RETENTION

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM
IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM
OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE
DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS
TRITIUM OXIDE RETENTION

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN
THE BODY WATER OF SOME AQUATIC ORGANISMS. OXIDES
BODY WATER SNAILS GASTROPODS AQUATIC LIFE
MOLLUSKS ABSORPTION FISH RETENTION
TRITIUM OXIDE SALMON FRY MAYFLY NYMPHS

06380 EFFECT OF RADIATION ON THE INCORPORATION OF TRITIUM BY THE RAT. OXIDES RATS MAMMALS RODENTS TISSUES TRITIUM OXIDE ABSORPTION

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS GROWTH TRITIUM OXIDE RADIATION EFFECTS

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. OXIDES CHLORELLA ALGAE CHLOROPHYTA PLANTS C-14 METABOLISM TRITIUM OXIDE BIOCHEMISTRY RADIATION EFFECTS

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. RATS MAMMALS RODENTS ABSORPTION TRITIUM GAS TRITIUM OXIDE DISTRIBUTION METABOLISM

06398 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. GASES RATS MAMMALS RODENTS ABSORPTION TRITIUM OXIDE TRITIATED WATER HYDROGEN TISSUES DISTRIBUTION METABOLISM ORGANS

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDE AND PROTEIN FRACTIONS FROM THE RAT. RADIOACTIVE TRACERS TRACERS RATS MAMMALS RODENTS LIPIDS PROTEINS NITROGEN COMPOUNDS OXIDES ORGANIC COMPOUNDS TRITIUM OXIDE METABOLISM BIOLOGICAL HALF-LIFE

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS DEUTERIUM NONMETALS RETENTION RATS MAMMALS RODENTS OXIDES TRITIUM OXIDE TISSUES CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE METABOLISM

06469 HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM OXIDE. MAXIMUM PERMISSIBLE CONCENTRATION RADIATION EXPOSURE OXIDES BIOLOGICAL EFFECTIVENESS TRITIUM OXIDE RADIOLOGICAL HAZARDS

06599 TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER. OXIDES HAZARDS WHOLE BODY EXPOSURE ABSORPTION RADIATION EXPOSURE MAXIMUM PERMISSIBLE CONCENTRATION SAFETY TRITIUM OXIDE EXCRETION

06628 REMOTE TRITIUM AIR MONITORING SYSTEM. WHOLE BODY EXPOSURE RADIATION EXPOSURE SAVANNAH RIVER PLANT HAZARDS ABSORPTION CLOTHING TRITIUM OXIDE ENVIRONMENTAL MONITORING

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. TRITIUM OXIDE METABOLISM MICE RATS MAN EXCRETION SPECIFIC ACTIVITIES BIOLOGICAL HALF-LIFE

06784 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. TRITIUM OXIDE PERCUTANEOUS ABSORPTION MICE RATS PULMONARY ABSORPTION ABSORPTION MAN

06789 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS FINAL REPORT JUNE 1, 1962 THROUGH JULY 31, 1964. TRITIUM OXIDE TOXIC EFFECTS TRITIATED WATER BODY WATER RADIATION EFFECTS AQUATIC LIFE

06792 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS, SUMMARY AND PROGRESS REPORT, JUNE 1, 1962 THROUGH JULY 31, 1963. TRITIUM OXIDE TOXIC EFFECTS RADIATION EFFECTS AQUATIC LIFE

06794 FISSION PRODUCT TRITIUM IN FUEL REPROCESSING WASTES. URANIUM FISSION RADIOLOGICAL HAZARDS RADIOACTIVE WASTES TRITIUM OXIDE DECONTAMINATION CONCENTRATION TRITIUM GAS RADIOACTIVE WASTE DISPOSAL FISSION PRODUCTS

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06862 EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE (K EKSPERIMENTALNOMU OBOZNOVANIYU PREDEL NO DOPUSTIMOY KONTSENTRATSII OKISI TRITIYA). MAXIMUM PERMISSIBLE CONCENTRATION TISSUES

BODY BURDEN RATS TRITIUM OXIDE RELATIVE BIOLOGICAL EFFECTIVENESS

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. TRITIATED WATER TRITIUM OXIDE RATS FATTY ACIDS CHOLESTEROL BIOSYNTHESIS HEPATIC LIPOGENESIS LIPID SECRETION LIVER

06874 THE MAXIMUM PERMISSIBLE CONCENTRATION OF GASEOUS TRITIUM IN THE AIR OF WORKING PREMISES. TRITIUM OXIDE TRITIATED WATER MAXIMUM PERMISSIBLE CONCENTRATION CUTANEOUS PENETRATION

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER. TRITIUM OXIDE TRITIATED WATER MAMMALIAN CELLS CELLS CULTURE MEDIUM DOSE RATES RADIATION RADIATION EFFECTS GROWTH RATE

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. TRITIUM OXIDE RADIATION HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS NUCLEAR REACTORS

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSASYVANIYE OKISI TRITIYA CHEREZ KOZHU). TRITIUM OXIDE TRITIATED WATER ABSORPTION SEASONAL VARIATIONS PERIODIC VARIATIONS AIR TEMPERATURE SKIN PERCUTANEOUS ABSORPTION RATS RODENTS MAMMALS

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY TRITIUM ON CELLS CULTIVATED IN VITRO. IRRADIATION CELLS CELL NUCLEUS CULTURE MEDIUM CHROMOSOMES CELL DIVISION MITOSIS RADIATION EFFECTS GENETIC EFFECTS DOSE RATES TRITIUM OXIDE RADIATION DOSE

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE. TRITIUM OXIDE IMMUNOLOGICAL REACTIVITY DOGS MAMMALS RADIATION EFFECTS RADIATION DOSE BIOLOGICAL EFFECTS AUTO-ALLERGIC PROCESSES

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. TRITIUM OXIDE RATS RODENTS MAMMALS BIOLOGICAL EFFECTS IMMUNOLOGICAL REACTIVITY BLOOD ESCHERICHIA BACTERIA MICROORGANISMS SKIN RADIATION DOSE

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07042 TOXICITY OF TRITIUM OXIDE. TRITIUM OXIDE RODENTS RABBITS RATS MICE MORTALITY BIOLOGICAL EFFECTS LETHAL DOSE TOXICITY MAMMALS 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. TRITIUM OXIDE RODENTS RATS MICE RABBITS BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE RADIATION SICKNESS MORTALITY HALF-LIFE TOXICITY TISSUES RADIATION DOSE MAMMALS

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. TRITIUM OXIDE RATS MICE MAMMALS RODENTS BIOLOGICAL EFFECTS RADIATION EFFECTS MORTALITY LETHAL DOSE LIVER TOXICITY

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. RADIATION DOSE TRITIUM OXIDE RATS RODENTS MAMMALS BLOOD CONCENTRATION MATHEMATICAL MODELS MODELS TISSUES BODY WATER BONE MARROW BRAIN LIVER GASTROINTESTINAL TRACT MUSCLE EXCRETION

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. TRITIUM OXIDE RADIATION EFFECTS TOXICITY BIOLOGICAL EFFECTS DOGS METABOLISM BIOLOGICAL HALF-LIFE MAMMALS HALF-LIFE EXCRETION

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE RODENTS RADIATION EFFECTS LIVER BLOOD PRESSURE HYPOTONIA TOXICITY NERVOUS SYSTEM RESPIRATION RATE PULSE METABOLISM BIOLOGICAL EFFECTS BIOLOGICAL HALF-LIFE MORTALITY HALF-LIFE RADIATION DOSE

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE. TRITIUM OXIDE TRANSFER FETUS RATS RODENTS TISSUES MAMMALS RADIATION EFFECTS RADIATION DOSE

07068 STATE OF AUTOINFECTION RESISTANCE IN MICE TREATED WITH TRITIUM OXIDE. TRITIUM OXIDE MICE MAMMALS RODENTS RADIATION SICKNESS RADIATION EFFECTS MICROORGANISMS

07075 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1970. PU-210 PU-238 CONCENTRATION MIAMI RIVER RIVERS ENVIRONMENTAL MONITORING MOUND LABORATORY TRITIUM OXIDE MONITORING

07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM ABCL REACTOR STACK. SNOW PRECIPITATION (METEOROLOGICAL) TRITIUM OXIDE CANADA SPECIFIC ACTIVITIES DILUTION RATE FACTORS NUCLEAR REACTORS

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951. TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE HALF-LIFE BACTERIA FIXATION MICROORGANISMS RETENTION MAN RATS RODENTS MAMMALS PLANTS SPLEEN OXIDATION PU-238 DOGS GASTROINTESTINAL TRACT

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07108 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING A BEARING ON THE PROBLEM OF TRITIUM OXIDE METABOLISM. DEUTERIUM TRITIUM OXIDE DEUTERIUM OXIDE BODY WATER METABOLISM TISSUES BIOLOGICAL HALF-LIFE HALF-LIFE LIPIDS PROTEINS DISTRIBUTION CARBOHYDRATES ORGANIC COMPOUNDS

07115 THE USE OF WATER AS A SAMPLING MEDIUM FOR TRITIUM OXIDE. BETA RADIATION HANFORD PROJECT ENVIRONMENTAL MONITORING OXIDES SAMPLING TRITIUM OXIDE CONTAMINATION

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS FLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

07158 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

TRITIUM PERMEABILITY

06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. HEAVY WATER REACTORS TRITIUM PERMEABILITY POLYVINYL CHLORIDE POLYMER FILMS TRITIATED WATER RADIOLOGICAL HAZARDS NUCLEAR REACTORS

TRITIUM PRODUCTION

07057 LITERATURE SURVEY ON PRODUCTION OF TRITIUM. BIBLIOGRAPHY TRITIUM PRODUCTION

TRITON

07154 THE PRODUCTION OF TRITONS AND C-14 IN THE TERRESTRIAL ATMOSPHERE BY SOLAR PROTONS. TRITON C-14 ATMOSPHERE (TERRESTRIAL) SOLAR PROTONS SOLAR FLARES PRODUCTION RATE

TROPICS

06293 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER

IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. BIOLOGICAL HALF-LIFE HALF-LIFE MICE RATS SALT WATER GUINEA-PIG RABBITS MAMMALS RODENTS TEMPERATURE ELIMINATION TROPICS

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. RAINFORESTS LUQUILLO MOUNTAINS PUERTO RICO MOUNTAINS SOILS SOIL MOVEMENT SOIL PROFILES TRITIATED WATER MODELS RESIDENCE TIME CLAYS FORESTS TROPICS

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT. PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MOVEMENT MATHEMATICAL MODELS MODELS RAINFORESTS FORESTS CONCENTRATION SPECIFIC ACTIVITIES RESIDENCE TIME TRITIATED WATER SOILS LITTER LEAVES TREES TROPICS

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. MATHEMATICAL MODELS MODELS HYDROGEN RAINFORESTS PUERTO RICO MOVEMENT CONCENTRATION LITTER RESIDENCE TIME TROPICS

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN FOREST. TRITIATED WATER MOVEMENT SOILS RAINFORESTS LITTER ROOTS RESIDENCE TIME PUERTO RICO TROPICS

TROPOSPHERE

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). DEUTERIUM HYDROGEN CONTAMINATION MONITORING NUCLEAR EXPLOSIONS EXPLOSIONS ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE MIXING RETENTION

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90 FALLOUT IN THE SOUTHERN HEMISPHERE. SR-90 FALLOUT SOUTHERN HEMISPHERE TROPOSPHERE SEASONAL VARIATIONS PERIODIC VARIATIONS STRATOSPHERE TRITIATED WATER MIXING EXCHANGE

06223 NEUBESTIMMUNG DER NATUERLICHEN IRDISCHEN TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES NATUERLICHEN TRITIUM (REDETERMINATION OF NATURAL TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE OF NATURAL TRITIUM). RADIOACTIVE DECAY COSMIC RADIATION RADIATION RESIDENCE TIME STRATOSPHERE TROPOSPHERE SNOW GREENLAND

06244 STRATOSPHERISCHES TRITIUM (STRATOSPHERIC TRITIUM). PRECIPITATION (METEOROLOGICAL) RAINOUT GERMANY TROPOSPHERE MODELS STRATOSPHERE WASHOUT DEPOSITION

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-18 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

06363 MORATORIUM TRITIUM GEOPHYSICS. SURFACE WATERS ATMOSPHERE (TERRESTRIAL) NUCLEAR EXPLOSIONS EXPLOSIONS FALLOUT MOVEMENT STRATOSPHERE TROPOSPHERE

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968,
BIOLOGY AND HEALTH PHYSICS DIVISION.
ATMOSPHERE (TERRESTRIAL) CANADA RIVERS
GROWTH RINGS SOIL MOISTURE
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS DEPOSITION STRATOSPHERE
TROPOSPHERE RETENTION AQUIFERS MOVEMENT

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS.
C-14 TREES PLANTS RAINWATER TROPOSPHERE
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
GROWTH RINGS CONCENTRATION

06851 TRITIUM GEOPHYSICS. SURFACE WATERS SR-90
RAINFALL FALLOUT RADIATION STRATOSPHERE
ATMOSPHERE (TERRESTRIAL) TROPOSPHERE FALLOUT
RESIDENCE TIME

06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC
MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90.
SOVIET NUCLEAR TESTS TROPOSPHERIC EXCHANGE
TROPOSPHERE SR-90 C-14 ATMOSPHERE (TERRESTRIAL)
MIXING

06868 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN
AND ATMOSPHERIC METHANE. TRITIATED HYDROGEN
TRITIATED METHANE TRITIATED WATER VAPOR
TRITIATED WATER STRATOSPHERE TROPOSPHERE GASES

06871 TRITIUM IN RAINWATER. COSMIC RADIATION
RADIATION TROPOSPHERE STRATOSPHERE
PRECIPITATION (METEOROLOGICAL) RAINWATER
PRODUCTION RATE HYDROLOGY

06885 TRITIUM IN SOUTHERN HEMISPHERE
PRECIPITATION 1953-1964. TRITIATED WATER
SOUTHERN HEMISPHERE FALLOUT TROPOSPHERE
STRATOSPHERE PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS

06893 TRITIUM AND DEUTERIUM IN ATMOSPHERIC
HYDROGEN. ATMOSPHERE (TERRESTRIAL) HYDROGEN
FALLOUT RH-102 TROPOSPHERE STRATOSPHERE
DEUTERIUM NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL
PROGRESS REPORT NO 3. EXCHANGE MIXING
ATMOSPHERE (TERRESTRIAL) STRATOSPHERE
TROPOSPHERE WATER VAPOR TRANSPORT MODELS
METEOROLOGY RESIDENCE TIME RAINFALL
PRECIPITATION (METEOROLOGICAL)
SEASONAL VARIATIONS

06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND
ATMOSPHERIC WATER. DEUTERIUM HYDROGEN
RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO
T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING

06967 TRITIUM INJECTION AND CONCENTRATION
DISTRIBUTION IN THE ATMOSPHERE. DEUTERIUM SR-90
O-18 RADIOACTIVE TRACERS TRACERS MODELS
CONCENTRATION RAINFALL STRATOSPHERE TROPOSPHERE
FALLOUT HYDROLOGY DISTRIBUTION
PRECIPITATION (METEOROLOGICAL)
ATMOSPHERE (TERRESTRIAL) METEOROLOGY EXCHANGE
MATHEMATICAL MODELS

06969 TRANSFER OF CARBON 14 AND TRITIUM FROM THE
ATMOSPHERE TO THE OCEAN. C-14 STRATOSPHERE
TROPOSPHERE TRANSFER OCEANS THERMOCLINE
RATE CONSTANTS NUCLEAR EXPLOSIONS

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND
ITS OCCURRENCE IN ATMOSPHERIC METHANE.
DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE
ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE
TROPOSPHERE TRITIATED WATER MIXING
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING
ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM
NUCLEAR RADIATION PERIODIC VARIATIONS C-14

07026 TRITIUM-ANSTIEG IM ATMOSPHERISCHEN
WASSERSTOFF. (TRITIUM INCREASE IN ATMOSPHERIC
HYDROGEN.) ATMOSPHERIC HYDROGEN CONCENTRATION
TROPOSPHERE

07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM
DANS LES EAUX DE PRECIPITATION EN FRANCE.
(EVOLUTION OF THE TRITIUM CONCENTRATION IN
PRECIPITATION IN FRANCE.) CONCENTRATION
PRECIPITATION (METEOROLOGICAL) FRANCE
SEASONAL VARIATIONS PERIODIC VARIATIONS
TRANSPORT TRITIATED WATER VAPOR TROPOSPHERE
STRATOSPHERE SR-90

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN
ILLINOIS; SEVENTH PROGRESS REPORT.
VERTICAL DISTRIBUTION DISTRIBUTION TROPOSPHERE
CONCENTRATION WATER VAPOR EVAPOTRANSPIRATION

MIXING ILLINOIS

TROPOSPHERIC EXCHANGE

06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC
MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90.
SOVIET NUCLEAR TESTS TROPOSPHERIC EXCHANGE
TROPOSPHERE SR-90 C-14 ATMOSPHERE (TERRESTRIAL)
MIXING

TSUNAMIS

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW
EVENT. MILROW RADIOACTIVITY GROUND WATER
CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION
ALASKA ALEUTIAN ISLANDS AMCHITKA ISLAND
TSUNAMIS BIOLOGICAL EFFECTS
UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK
WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES
NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

TUMORS

06762 TUMOR INDUCTION IN MICE BY RADIOACTIVE
THYMIDINE. C-14 DNA MICE TUMORS
CARCINOGENIC EFFECTS RETENTION
TRITIATED THYMIDINE RADIATION EFFECTS

06894 TRITIUM UPTAKE, HALF-LIVES AND RADIATION
DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH
TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE.
TRITIATED DRUGS ABSORPTION TUMORS DOSE RATES
BIOLOGICAL HALF-LIFE SPECIFIC ACTIVITIES CANCER
MAN KIDNEY TESTES LIVER BRAIN MUSCLE
BONE MARROW HALF-LIFE ORGANS

06993 THE EFFECT OF TRITIATED THYMIDINE ON
MORTALITY AND TUMOR INCIDENCE IN MICE.
TRITIATED THYMIDINE TRITIATED COMPOUNDS
RADIATION EFFECTS MORTALITY TUMORS NEOPLASIA
MICE RODENTS MAMMALS 06994 DATING DESERT GROUND
WATER. C-14 RAINFALL
PRECIPITATION (METEOROLOGICAL)
RADIOACTIVE AGE DETERMINATION GROUND WATER
DESERTS SAUDI ARABIA

T/D RATIO

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN
BIOLOGICAL SYSTEMS. FRACTIONATION DEUTERIUM
BIOLOGICAL SYSTEMS RATS MAMMALS RODENTS
T/D RATIO BODY WATER

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND
TRITIUM IN THE RAT. METABOLISM DEUTERIUM OXIDE
TRITIUM OXIDE OXIDES RATS MAMMALS RODENTS
TISSUES DEUTERIUM T/D RATIO

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM
AND DEUTERIUM. RADIOACTIVE TRACERS TRACERS
DEUTERIUM NONMETALS RETENTION RATS MAMMALS
RODENTS OXIDES TRITIUM OXIDE TISSUES
CONCENTRATION T/D RATIO BIOLOGICAL HALF-LIFE
METABOLISM

06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND
ATMOSPHERIC WATER. DEUTERIUM HYDROGEN
RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO
T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING
ATMOSPHERIC NUCLEAR TESTING

T/H RATIO

06204 TRITIUM CONTENT OF ATMOSPHERIC METHANE AND
ETHANE. GASES METHANE ETHANE NUCLEAR REACTORS
ATMOSPHERE (TERRESTRIAL) T/H RATIO

06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM
EXPOSURES. DOSE ESTIMATION ORGANS ASSIMILATION
DEER FATS MAMMALS BODY WATER BODY FLUIDS
RADIATION EXPOSURE TISSUES HEART LIVER KIDNEY
SPLEEN BRAIN MUSCLE BODY BURDEN TRITIUM OXIDE
T/H RATIO

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE
AND SOURCES OF TRITIATED METHANE. HYDROGEN GASES
METHANE NUCLEAR POWER INDUSTRY T/H RATIO
ATMOSPHERE (TERRESTRIAL) TRITIATED METHANE

06253 THE NATURAL DISTRIBUTION OF TRITIUM.
COSMIC RADIATION SURFACE WATERS RADIATION
DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES
WINES PRODUCTION RATE
PRECIPITATION (METEOROLOGICAL) T/H RATIO

06255 THE MEASUREMENT OF TRITIUM ACTIVITY IN
NATURAL WATERS I TECHNIQUES.
GAS PROPORTIONAL COUNTERS SCINTILLATION COUNTERS
GROUND WATER T/H RATIO EQUIPMENT INSTRUMENTS

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966. ATMOSPHERE (TERRESTRIAL) LIQUID OXYGEN METHANE ETHANE KRYPTON KR-85 FORMALDEHYDE PHOTOCHEMICAL LIFETIME HYDROGEN T/H RATIO D/H RATIO

06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND ATMOSPHERIC WATER. DEUTERIUM HYDROGEN RAINWATER ATMOSPHERE (TERRESTRIAL) T/H RATIO T/D RATIO TROPOSPHERE DIFFUSION NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING

07020 AN ADDITIONAL MEASUREMENT OF THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN OF 1949. ATMOSPHERIC HYDROGEN T/H RATIO

07078 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 1, 1960--OCTOBER 31, 1961. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE T/H RATIO

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. NUCLEAR POWER INDUSTRY BIOLOGICAL HALF-LIFE RADIATION EFFECTS ENRICHMENT MOVEMENT FOOD-CHAINS RADIOACTIVE WASTE DISPOSAL ENVIRONMENTAL MONITORING NUCLEAR REACTORS RADIATION EXPOSURE T/H RATIO ATMOSPHERE (TERRESTRIAL) STROPOSPHERE CONTAMINATION

UNDEGROUND NUCLEAR EXPLOSIONS

07166 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. CANE TRITIATED HYDROGEN TRITIATED METHANE SHALE CONTAMINATION TRITIATED WATER NATURAL GAS PLOWSHARE PROGRAM NUCLEAR EXPLOSIONS UNDEGROUND NUCLEAR EXPLOSIONS

UNDEGROUND NUCLEAR EXPLOSIONS

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDEGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDEGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDEGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06268 TRITIUM DISTRIBUTION IN GROUND WATER AROUND LARGE UNDEGROUND FUSION EXPLOSIONS. UNDEGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS GROUND WATER PLOWSHARE PROGRAM DISTRIBUTION TRITIATED WATER

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. HYDROLOGY GEOLOGY LONG SHOT AMCHITKA ISLAND ALASKA EXPLOSIONS ALEUTIAN ISLANDS UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SURFACE WATERS CONTAMINATION STRATIGRAPHY PETROGRAPHY SEISMIC REFRACTION PROFILES TRANSPORT TRITIATED WATER GROUND WATER

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDEGROUND NUCLEAR EXPLOSIONS PLOWSHARE PROGRAM KR-85 XE-133 AR-37 C-14 VEGETATION PROJECT RULISON

06887 PROJECT GNOME, ISOTOPE PROGRAM; FINAL REPORT. TRITIATED WATER PROJECT GNOME SALT MEDIUM FISSION PRODUCTS FRACTIONATION UNDEGROUND NUCLEAR EXPLOSIONS

06888 PROJECT SHOAL, POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. PROJECT SHOAL UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CONTAMINATION GROUND WATER CE-144 PM-147 RU-106 CS-137 PE-55 SR-90 SB-125 EU-155 SM-151 CD-113 GD-153 TRANSPORT MOVEMENT HYDROLOGY GRANITE IGNEOUS ROCK ROCK

06935 RESULTS FROM SEDAN POSTSHOT DRILLING. SEDAN UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS CRATERING GAMMA RADIATION RADIATION NEVADA TEST SITE NUCLEAR CRATERS PLOWSHARE PROGRAM

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON AQUATIC ECOSYSTEMS. AQUATIC ECOSYSTEMS NUCLEAR EXPLOSIONS UNDEGROUND NUCLEAR EXPLOSIONS CONCENTRATION TISSUES ORGANS AQUATIC ANIMALS ACCUMULATION ECOSYSTEMS 06991 TRITIUM

DISTRIBUTION, RESIDENCE TIME, AND INVENTORY IN SEDAN CRATER EJECTA. DISTRIBUTION RESIDENCE TIME SEDAN PLOWSHARE PROGRAM NUCLEAR CRATERS CONCENTRATION SOILS DEPTH

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. RECOVERY RADIOISOTOPE PRODUCTION TRITIATED WATER UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS SALT MEDIUM PROJECT GNOME DISTRIBUTION EXPLOSIONS

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION PLOWSHARE PROGRAM ALEUTIAN ISLANDS ALASKA EXPLOSIONS UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING AMCHITKA ISLAND WATER

07080 PURGING OF NUCLEAR CHIMNEYS. KR-85 UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR CHIMNEYS PROJECT KETCH PLOWSHARE PROGRAM PURGING NATURAL GAS STORAGE

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. TRITIATED WATER PLOWSHARE PROGRAM MOVEMENT CONTAMINATION GROUND WATER UNDEGROUND NUCLEAR EXPLOSIONS TRANSPORT GASES DIFFUSION KR-85 DIFFUSION EQUATION EQUATIONS

07138 GASBUGGY IN PERSPECTIVE. PROJECT GASBUGGY PLOWSHARE PROGRAM KR-85 CONCENTRATION NUCLEAR CHIMNEYS NATURAL GAS HYDROLOGY UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. PROJECT GASBUGGY PLOWSHARE PROGRAM CHEMICAL ANALYSIS CARBON CARBON DIOXIDE CARBON MONOXIDE GASES HYDROGEN NUCLEAR CHIMNEYS CONCENTRATION DRAGON TRAIL PROJECT BRONCHO DISTRIBUTION UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS NATURAL GAS

07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. MIGRATION GROUND WATER UNDEGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS EXPLOSIONS NEVADA TEST SITE SR-90 RADIOACTIVE DECAY SORPTION DISPERSION HYDROLOGY CONTAMINATION CONCENTRATION

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALEUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDEGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER PLOWSHARE PROGRAM

UNDEGROUND NUCLEAR TESTING

00038 DISTRIBUTION OF RADIONUCLIDES FROM UNDEGROUND NUCLEAR EXPLOSIONS. NUCLEAR EXPLOSIONS NUCLEAR TESTING UNDEGROUND NUCLEAR TESTING SR-90 CO-60 SOILS TRANSPORT MOVEMENT PLOWSHARE PROGRAM

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDEGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDEGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDEGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

UNDEGROUND WATER CIRCULATION

06951 LE TRITIUM UTILISE COMME TRACEUR EN GEOPHYSIQUE (TRITIUM USED AS A TRACER IN GEOPHYSICS). TRACERS GEOPHYSICS CURRENTS UNDEGROUND WATER CIRCULATION SURFACE WATER CIRCULATION

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. (TRITIUM STUDY OF THE DYNAMICS OF UNDERGROUND WATER.) MATHEMATICAL MODELS MODELS TRACERS UNDEGROUND WATER CIRCULATION HYDROLOGY

UNITED KINGDOM

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN; RESULTS TO THE MIDDLE OF 1969. RAINWATER UNITED KINGDOM FALLOUT CS-137 SR-90 DEPOSITION CONCENTRATION MONITORING PERIODIC VARIATIONS

UNITED STATES

04086 TRITIUM IN SURFACE WATERS, 1984-1985.
SURFACE WATERS CONCENTRATION UNITED STATES
SAMPLING

06206 UNITED STATES TRITIUM RAINOUT AND ITS
HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT
RAINFALL UNITED STATES ALASKA
PRECIPITATION (METEOROLOGICAL) PUERTO RICO
HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS
PERIODIC VARIATIONS

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968.
BODY BURDEN BODY WATER DOSE EQUIVALENTS
CHILDREN URINE CONCENTRATION SAMPLING NETWORKS
DIETS UNITED STATES

06980 TRITIUM CONCENTRATIONS IN FOOD, 1967-1968.
CONCENTRATION FOODS DOSE EQUIVALENTS CHILDREN
UNITED STATES

06981 TRITIUM IN COMMUNITY WATER SUPPLIES, 1969.
CONCENTRATION COMMUNITY WATER SUPPLIES
RADIATION DOSE GROUND WATER SURFACE WATERS
UNITED STATES SAMPLING

06982 TRITIUM IN SURFACE WATER NETWORK,
JULY-DECEMBER 1969. SURFACE WATERS
RADIATION EXPOSURE CONCENTRATION SAMPLING
UNITED STATES

06983 TRITIUM IN SURFACE WATER NETWORK,
JANUARY-JUNE 1970. CONCENTRATION
SURFACE WATERS RADIATION DOSE SAMPLING
UNITED STATES

06985 TRITIUM IN STREAMS IN THE UNITED STATES,
1961-1968. STREAMS CONCENTRATION UNITED STATES
ALASKA SAMPLING STREAM DISCHARGE
SAMPLING NETWORKS

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN
1962 AND 1963. RAINOUT WASHOUT
SEASONAL VARIATIONS PERIODIC VARIATIONS
DISTRIBUTION UNITED STATES CONCENTRATION
PRECIPITATION (METEOROLOGICAL) SAMPLING
SAMPLING NETWORKS ALASKA PUERTO RICO

UNSATURATED SOIL

06848 TRITIATED WATER DISTRIBUTION IN UNSATURATED
SOIL. DIFFUSIVITY VALUES UNSATURATED SOIL
TRITIATED WATER SOILS RAINFALL LEACHING
SOIL MOISTURE PRECIPITATION (METEOROLOGICAL)
MATHEMATICAL MODELS DISTRIBUTION

UPTAKE

06775 TOXICOLOGICAL STUDIES OF TRITIATED
THYMIDINE. INTAKE RATE TRITIATED THYMIDINE
RADIOTOXICITY TOXICITY MICE RETENTION UPTAKE
METABOLISM

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED
WITH TRITIATED WATER. TRITIATED WATER
INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY
RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR
TRITIATED WATER VAPOR SKIN

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY
FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION
STUDIES. TRITIATED THYMIDINE X-IRRADIATION
RADIATION ORGANS RATS UPTAKE KIDNEY
RADIATION EFFECTS

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES
IN FOOD CHAINS. BIOLOGICAL PROCESSES RETENTION
FISH AQUATIC LIFE MAMMALS MAN FOOD-CHAINS
UPTAKE CONCENTRATION INVERTEBRATES
BIOLOGICAL HALF-LIFE

06803 INCORPORATION OF (H-3) THYMIDINE INTO
NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED
MAMMALIAN CELLS. LIVER CELLS DNA NUCLEAR DNA
MITOCHONDRIAL DNA TRITIATED THYMIDINE UPTAKE

06861 INTERNAL CONTAMINATION WITH TRITIUM (INTERNAL
CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY
LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE
RADIATION EFFECTS RADIATION EXPOSURE

06866 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND
TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF
DIFFERENT CHLORIDE STATUS. TRITIATED WATER
ONIONS ROOTS EXUDATE ABSORPTION TRANSPORT
CL-36 UPTAKE TRANSPORT

06875 MOVEMENT OF TRITIATED WATER IN THE ROOT

SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND
ABSENCE OF TRANSPIRATION. TRITIATED WATER
ROOT SYSTEM ROOTS PLANTS HELIANTHUS
TRANSPIRATION UPTAKE FLOWERING PLANTS

06886 RADIAL EXCHANGE OF LABELED WATER IN INTACT
MAIZE ROOTS. TRITIATED WATER ROOTS CORTEX
ENDODERMIS METABOLISM DIFFUSION COEFFICIENT
DIFFUSION UPTAKE

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT
IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS
FORESTS PUERTO RICO SURFACE WATERS SOILS
TRITIATED WATER WATER EXCHANGE TRANSPIRATION
TROPICS RESIDENCE TIME HYDROLOGY RAINOUT
DISTRIBUTION UPTAKE TREES

07070 THE BIOLOGICAL EFFECTS OF TRITIUM.
BIOLOGICAL EFFECTS UPTAKE TRITIATED WATER
RADIATION DOSE MODELS TISSUES MAN
RADIOLOGICAL HAZARDS INHALATION TRITIUM GAS
ANIMALS REVIEW

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951.
TRITIUM OXIDE PERCUTANEOUS ABSORPTION UPTAKE
HALF-LIFE BACTERIA FIXATION MICROORGANISMS
RETENTION MAN RATS RODENTS MAMMALS PLANTS
SPLEEN OXIDATION PU-238 DOGS
GASTROINTESTINAL TRACT

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR
TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN
FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION
SOIL PROFILES VEGETABLES CORN RADISHES
POTATOES BEANS MELONS ONIONS
ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

URANIUM

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL
COMPOSITION. SOILS CHEMICAL ANALYSIS
PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION
POTASSIUM CARBON CLAYS SILICATES WEATHERING
RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON
METALS PLANTS LEACHING NONMETALS

06289 ESTIMATING BODY BURDEN LEVELS OF
RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA
FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE
BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137
PO-210 RA-226 TH-227 URANIUM PLUTONIUM
AMERICIUM METALS TECHNETIUM EXCRETION MAN

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE
FROM METABOLIC AND URINARY EXCRETION DATA FOR A
NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM
PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM
SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM
EXCRETION DOSE ESTIMATION

06833 INTERPRETATION OF BIO-ASSAY DATA. CESIUM
URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM
BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION
URINE EXCRETION

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN
BODY. URANIUM THORIUM ACTINIUM K-40 C-14
MAN FOODS METABOLISM RADIATION WATER

06884 ORIGIN OF TRITIUM IN HYDROTHERMAL
SOLUTIONS. TRITIATED WATER
HYDROTHERMAL SOLUTIONS GEOTHERMAL WATERS URANIUM
THORIUM

07179 A STATISTICAL SUMMARY OF UNITED STATES
ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL
EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM
URANIUM IODINE PO-210 SR-90
INTERNAL DEPOSITION INTERNAL EXPOSURE
BODY BURDEN INHALATION STATISTICAL ANALYSIS
BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

URANIUM FISSION

06794 FISSION PRODUCT TRITIUM IN FUEL
REPROCESSING WASTES. URANIUM FISSION
RADIOLOGICAL HAZARDS RADIOACTIVE WASTES
TRITIUM OXIDE DECONTAMINATION CONCENTRATION
TRITIUM GAS RADIOACTIVE WASTE DISPOSAL
FISSION PRODUCTS

UREA

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND
GLYCINE BETWEEN MATERIAL AND POSTAL BODY FLUIDS IN
RABBITS AND PIGS. C-14 UREA GLYCINE
PERITONEUM PIGS RABBITS ALLANTOIC SAC
TRITIATED WATER TRANSFER BODY FLUIDS
TRITIATED WATER

URINALYSER

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

URINALYSIS

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS INTERNAL EXPOSURE EXPERIENCE, 1957-1966. PLUTONIUM URANIUM IODINE PO-210 SR-90 INTERNAL DEPOSITION INTERNAL EXPOSURE BODY BURDEN INHALATION STATISTICAL ANALYSIS BIOASSAY URINALYSIS RADIATION EXPOSURE MAN

URINE

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN AGE TEMPERATURE WATER HALF-LIFE ANALYSIS SAVANNAH RIVER PLANT

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. RATS RODENTS MAMMALS CATS RABBITS GUINEA-PIG MAN BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION URINE BODY WATER BODY FLUIDS

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06226 MONITORING FOR TRITIUM AT LOW LEVELS. ABSORPTION BETA RADIATION RADIATION URINE INSTRUMENTS BODY BURDEN MAN MONITORING TRITIATED WATER

06264 ESTIMATION OF WHOLE BODY DOSE (REM) FROM TRITIUM IN BODY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE BODY BURDEN URINE BODY WATER DOSE ESTIMATION

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. URINE BODY BURDEN S-35 CO-60 SR-90 I-131 CS-137 PO-210 RA-226 TH-227 URANIUM PLUTONIUM AMERICIUM METALS TECHNETIUM EXCRETION MAN

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06295 RECOMMENDED PROCEDURES FOR TRITIUM. BIOASSAY URINE INSTRUMENTS EQUIPMENT

06328 THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN. GASTROINTESTINAL TRACT MAN URINE INGESTION ABSORPTION BLOOD TRANSFER TRITIATED WATER

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. BODY WATER BODY FLUIDS COWS MAMMALS DOMESTIC ANIMALS LIVESTOCK BLOOD URINE MILK DAIRY PRODUCTS FOODS TRITIATED WATER

06418 PERFORMANCE OF AN AUTOMATIC ANALYSER FOR TRITIUM IN URINE. SCINTILLATION COUNTERS RADIATION EXPOSURE WHOLE BODY EXPOSURE EQUIPMENT INSTRUMENTS URINE

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. ABSORPTION DISTRIBUTION EXCRETION MAN GASES MAXIMUM PERMISSIBLE CONCENTRATION BODY FLUIDS TRITIATED WATER GASTROINTESTINAL TRACT SKIN BIOLOGICAL HALF-LIFE MICE URINE RODENTS

06483 DETERMINATION OF TRITIUM IN WATER AND URINE. ELECTROLYSIS SCINTILLATION COUNTING CHEMICAL ANALYSIS ANALYSIS URINE WATER URINE ANALYSIS

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING URINE TRITIATED WATER SAFETY TRITIATED WATER VAPOR CHALK RIVER

06492 THE RADIATION HAZARD TO WORKERS USING TRITIATED LUMINOUS COMPOUNDS. MAXIMUM PERMISSIBLE CONCENTRATION CHEMICAL COMPOUNDS HAZARDS URINE MAN INHALATION TRITIATED WATER VAPOR TRITIATED WATER TRITIATED COMPOUNDS RADIOLOGICAL HAZARDS BODY BURDEN

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06633 INTERPRETATION OF BIO-ASSAY DATA. CESIUM URANIUM STRONTIUM RADIUM PLUTONIUM METABOLISM BLOOD ORGANS MAN BIOASSAY EXCRETION RETENTION URINE EXCRETION

06661 INTERNE KONTAMINATION MIT TRITIUM (INTERNAL CONTAMINATION BY TRITIUM). URINE MUSCLE KIDNEY LIVER SPLEEN LUNGS BIOLOGICAL HALF-LIFE UPTAKE RADIATION EFFECTS RADIATION EXPOSURE

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. TRITIATED THYMIDINE METABOLISM MAN TRITIATED WATER DNA EXCRETION URINE FECES BIOLOGICAL HALF-LIFE BONE MARROW HALF-LIFE

06955 MESURE DE LA CONTAMINATION DU CORPS HUMAIN (MEASUREMENT OF THE CONTAMINATION OF THE HUMAN BODY). THYMIDINE TRITIATED HYDROGEN TRITIATED WATER URINE MAN CONTAMINATION

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968. BODY BURDEN BODY WATER DOSE EQUIVALENTS CHILDREN URINE CONCENTRATION SAMPLING NETWORKS DIETS UNITED STATES

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS. RADIOLOGICAL HAZARDS HEAVY WATER REACTORS NUCLEAR REACTORS CONCENTRATION ASSIMILATION URINE BIOLOGICAL HALF-LIFE HALF-LIFE HAZARDS

URINE ANALYSIS

06483 DETERMINATION OF TRITIUM IN WATER AND URINE. ELECTROLYSIS SCINTILLATION COUNTING CHEMICAL ANALYSIS ANALYSIS URINE WATER URINE ANALYSIS

06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. SCINTILLATION COUNTING RADIOCHEMICAL ANALYSIS CHEMICAL ANALYSIS BIOLOGICAL HALF-LIFE HALF-LIFE MAN ANALYSIS URINE ANALYSIS SAVANNAH RIVER PLANT

06605 SKIN CONTACT TRANSFER OF TRITIUM FROM BRASS. SKIN TRANSFER BRASS ABSORPTION BODY WATER URINE ANALYSIS

06631 ASSESSMENT OF TRITIUM IN MAN. SAVANNAH RIVER PLANT ABSORPTION CHEMICAL ANALYSIS ANALYSIS MATHEMATICAL MODELS MODELS URINE ANALYSIS BODY WATER MAN

06634 ACTIVITIES OF THE BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER NUCLEAR LABORATORIES. RADIOCHEMICAL ANALYSIS ANALYSIS BODY BURDEN CHEMICAL ANALYSIS EQUIPMENT URINE ANALYSIS

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CESIUM PHOSPHORUS POLONIUM PLUTONIUM RADIUM STRONTIUM SULPHUR URANIUM URINE ANALYSIS MAN METABOLISM EXCRETION DOSE ESTIMATION

06958 TRITIUM (A BIBLIOGRAPHY). URINE ANALYSIS METABOLISM BIBLIOGRAPHY

07180 ASSESSMENT OF TRITIUM IN MAN. MAN RADIATION EXPOSURE OCCUPATIONAL EXPOSURE ASSIMILATION INHALATION URINE ANALYSIS ELIMINATION BIOLOGICAL HALF-LIFE MATHEMATICAL MODELS MATHEMATICAL ANALYSIS METABOLISM HALF-LIFE CONCENTRATION BODY WATER RADIATION DOSE MODELS

URINE SAMPLING

06781 MEASUREMENT OF TRITIUM CONCENTRATION IN EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY BURDENS. URINE SAMPLING BREATH SAMPLING BODY BURDEN EXHALED WATER VAPOR DOSE ESTIMATION CONCENTRATION

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

URINE ANALYSIS

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. TRITIATED WATER URINE ANALYSIS URINE SAMPLING BLOOD TRANSFER BODY FLUIDS BODY WATER MAN SPECIFIC ACTIVITIES EXHALED WATER VAPOR TRACERS

U-235

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

U-238

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

VAPOR EXCHANGE

06966 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

VAPOR PRESSURE

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06835 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN. TRITIATED WATER SKIN ABSORPTION VAPOR PRESSURE BLOTTER EFFECT DIFFUSION MAN RESPIRATORY TRACT BODY FLUIDS TRITIATED WATER VAPOR

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. TRITIUM OXIDE RADIATION HEAVY WATER REACTORS HEAVY WATER DEUTERIUM OXIDE VAPOR PRESSURE FALLOUT RADIOLOGICAL HAZARDS NUCLEAR REACTORS

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE CRITICAL POINT OF HYDROGEN, DEUTERIUM, AND TRITIUM, AND THEIR DIATOMIC COMBINATIONS. DEUTERIUM HYDROGEN GASES VAPOR PRESSURE COEFFICIENTS TEMPERATURE CONSTANTS

07077 ENVIRONMENTAL ISOTOPE DATA NO. 1; WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1953-1963). DEUTERIUM O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE AIR TEMPERATURE GLOBAL NETWORK MONITORING

07182 ENVIRONMENTAL ISOTOPE DATA NO. 2. WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1964-1965). DEUTERIUM O-18 CONCENTRATION MONITORING PRECIPITATION (METEOROLOGICAL) VAPOR PRESSURE

VEGETABLES

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. ANALYSIS TISSUES BLOOD VEGETABLES FRUITS CARBON DIOXIDE MAN ANIMALS RADIOCHEMICAL ANALYSIS SAMPLING DIETS FOODS MEATS EQUIPMENT ATMOSPHERE (TERRESTRIAL)

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE AND TRITIUM GAS BY BEAN PLANTS. ABSORPTION METABOLISM KIDNEY BEANS BEANS PH CROPS

LEGUMES PLANTS VEGETABLES RETENTION LIGHT TRITIUM OXIDE TRITIUM GAS

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14. P-32 C-14 BEANS CROPS LEGUMES PLANTS TRACERS VEGETABLES TRANSLOCATION PHLOEM TRITIATED WATER

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. METABOLISM PROTIUM BEANS CROPS LEGUMES PLANTS VEGETABLES TRITIUM OXIDE DEUTERIUM OXIDE PROTIUM OXIDE OXIDES DEUTERIUM

07022 RESULTATS DE MESURES D ACTIVITEEN TRITIUM DE CERTAINES EAUX DU SUD-QUEST. (RESULTS OF TRITIUM ACTIVITY MEASUREMENTS OF SOME WATER OF SOUTHWEST.) RAINWATER LAKES VEGETABLES DISTRIBUTION FRANCE

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-Y MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. UPTAKE CROPS NEVADA TEST SITE SEDAN FLOWSHARE PROGRAM CONCENTRATION DISTRIBUTION SOIL PROFILES VEGETABLES CORN RADISHES POTATOES BEANS MELONS ONIONS ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING

07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS. MUTATIONS RADIATION EFFECTS GENETIC EFFECTS PEAS TRITIATED WATER VEGETABLES

VEGETATION

04147 RADIOACTIVITY AND HUMAN DIET. RADIOACTIVITY MAN RADIATION EXPOSURE CONTAMINATION MILK FOOD-CHAINS FALLOUT VEGETATION ABSORPTION SOILS ANIMALS METABOLISM PHYSIOLOGY FRESH WATER SEA WATER ALGAE FISH FORAGE LEAVES RADIATION ROOTS DIETS CALCIUM ENVIRONMENTS FOODS CALCIUM

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS FLOWSHARE PROGRAM KR-85 XB-133 AR-37 C-14 VEGETATION PROJECT RULISON

06795 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION FOODS VEGETATION FRESH WATER ALGAE FISH GAMMA RADIATION CONCENTRATION TRITIUM OXIDE ATMOSPHERE (TERRESTRIAL) BETA RADIATION MAXIMUM PERMISSIBLE CONCENTRATION

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

07058 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. ENVIRONMENTAL MONITORING BROOKHAVEN NATIONAL LABORATORY STACK EMISSIONS STREAMS RECHARGE BASINS RADIOACTIVE WASTES CONCENTRATION I-131 VEGETATION

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; REPORT FOR 1964. ENVIRONMENTAL MONITORING ARGONNE NATIONAL LABORATORY RADIOACTIVITY AIR MONITORING MONITORING CONTAMINATION SAWMILL CREEK DES PLAINES RIVER RIVERS RADIOACTIVE WASTES SR-90 TRITIATED WATER ALPHA RADIATION BETA RADIATION SR-89 BA-140 CS-137 I-131 CO-60 TH-234 SILT PLUTONIUM SURFACE WATERS VEGETATION SOILS

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 8; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL SAFETY REPORT GB-2R PHASE I PROGRAM. WATER VEGETATION SOILS CONCENTRATION ATMOSPHERE (TERRESTRIAL) PROJECT GASBUGGY SAMPLING NETWORKS PLOWSHARE PROGRAM

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. C-14 KR-85 PROJECT GASBUGGY PLOWSHARE PROGRAM PLATING SOILS ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) SNOW PRECIPITATION (METEOROLOGICAL) VEGETATION CONCENTRATION

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. PROJECT BUGGY I PLOWSHARE PROGRAM NUCLEAR EXPLOSIONS EXPLOSIONS CRATERING CONCENTRATION SNOW I-131 PRECIPITATION (METEOROLOGICAL) ENVIRONMENTAL MONITORING NEVADA TEST SITE MILK VEGETATION

VELOCITY

06254 AN EVALUATION OF GROUND-WATER TRACERS. GROUND WATER TRACERS CHLORIDES DYES FLUORESCENCE I-131 CA-40 CA-45 SOILS TRANSPORT VELOCITY TRITIATED WATER

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA. WELLS AQUIFERS IRRIGATION GROUND WATER CALIFORNIA VELOCITY

NUCLEAR TESTING MOVEMENT

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

VENTILATION

06953 TRITIUM ET VAPEUR D'EAU TRITIÉE- DURÉE LIMITES D'EXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELÉE (TRITIUM AND TRITIATED WATER VAPOR- TIME LIMITS FOR ACCIDENTAL EXPOSURE IN STABLE OR RENEWED ATMOSPHERE). TRITIATED WATER VAPOR RESPIRATORY INTAKE OXIDATION VENTILATION RADIATION EXPOSURE

VERTICAL DISTRIBUTION

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER. LEACHING CS-137/MN-54 RATIO SEDAN SOIL MOISTURE DISTRIBUTION RAINFALL DEPTH EJECTA PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION PLOWSHARE PROGRAM NEVADA TEST SITE

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS; SEVENTH PROGRESS REPORT. VERTICAL DISTRIBUTION DISTRIBUTION TROPOSPHERE CONCENTRATION WATER VAPOR EVAPOTRANSPIRATION MIXING ILLINOIS

07180 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1963. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

VITAMINS

06391 THE DESTRUCTION OF RIBOFLAVIN, BIOTIN AND POLIC ACID IN VERY DILUTE AQUEOUS SOLUTION BY TRITIUM BETA RADIATION. VITAMINS BETA RADIATION RADIATION RADIOSENSITIVITY RADIATION EFFECTS

VOLATILIZATION

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. TRITIATED ACETIC ACID TRITIATED COMPOUNDS VOLATILIZATION CONTAMINATION RADIATION EXPOSURE ABSORPTION SKIN ALDOSTERONE MAN

WASHOUT

06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. RAINOUT WASHOUT RAINFALL UNITED STATES ALASKA PRECIPITATION (METEOROLOGICAL) PUERTO RICO HYDROLOGY DISTRIBUTION SEASONAL VARIATIONS PERIODIC VARIATIONS

06244 STRATOSPHERIC TRITIUM (STRATOSPHERIC TRITIUM). PRECIPITATION (METEOROLOGICAL) RAINOUT GERMANY TROPOSPHERE MODELS STRATOSPHERE WASHOUT DEPOSITION

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. KR-85 DOSE ESTIMATION WASHOUT RAINOUT FALLOUT RADIATION EXPOSURE MODELS INHALATION INGESTION PERCUTANEOUS ABSORPTION DOSE EQUIVALENTS MAN REACTOR FUELS REPROCESSING EQUATIONS

06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. BODY BURDEN SAFETY RADIATION EXPOSURE DOSE RATES WASHOUT TRITIATED WATER KR-85

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. SURFACE WATERS SAMPLING RAINOUT WASHOUT RADIATION ILLINOIS RAINFALL PRECIPITATION (METEOROLOGICAL) AIRBORNE CONTAMINATION CHEMICAL COMPOSITION RADIOACTIVITY

06964 THE DETERMINATION OF TRITIUM IN NATURAL WATERS. RAINWATER SEA WATER SNOW PRECIPITATION (METEOROLOGICAL) CONCENTRATION ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING CANADA WASHOUT

06985 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN. SR-90 SEASONAL VARIATIONS RAINWATER GERMANY CONCENTRATION RAINOUT WASHOUT ATMOSPHERE (TERRESTRIAL) PERIODIC VARIATIONS PRECIPITATION (METEOROLOGICAL)

06986 TRITIUM IN CRATER LAKE, OREGON. CRATER LAKE LAKES TRANSFER PRECIPITATION (METEOROLOGICAL) CONCENTRATION RAINOUT WASHOUT EXCHANGE VAPOR EXCHANGE HYDROLOGY

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN 1962 AND 1963. RAINOUT WASHOUT SEASONAL VARIATIONS PERIODIC VARIATIONS DISTRIBUTION UNITED STATES CONCENTRATION PRECIPITATION (METEOROLOGICAL) SAMPLING SAMPLING NETWORKS ALASKA PUERTO RICO

07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN WASHOUT TRITIATED WATER WATER VAPOR RAINWATER EXCHANGE SPECIFIC ACTIVITIES STACK EMISSIONS

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

WASTE DISPOSAL

05051 SOME SECOND THOUGHTS ON TRITIUM CONTAMINATION. CONTAMINATION RADIOACTIVITY GASES DIFFUSION WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL TRITIUM GAS RADIOLOGICAL HAZARDS

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO. TRACERS DYES GEOLOGY HYDROLOGY GROUND WATER FLOW RATES WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL IDAHO NATIONAL REACTOR TESTING STATION CONCENTRATION TRANSPORT BASALT IGNEOUS ROCK ROCK

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT ENVIRONMENTAL RADIATION RADIATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL COOLING WATER RIVERS RADIATION EXPOSURE COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES WASTES

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES WASTE DISPOSAL WASTES MOVEMENT GROUND WATER TRACERS STREAMS SAVANNAH RIVER PLANT

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIFERS CANADA PERCH LAKE RADIOACTIVE WASTES WASTES RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES GROUND WATER TRITIATED WATER

06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. HANFORD PROJECT WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL SEDIMENTS MIGRATION SR-90 RU-106 CONTAMINATION GROUND WATER TC-99 RADIOACTIVE DECAY CS-137 LEACHING

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN

SOLUTION THROUGH POROUS MEDIA. TRANSPORT RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIOACTIVE TRACERS TRACERS SOILS TRITIATED WATER MOVEMENT GROUND WATER

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. GROUND WATER CONTAMINATION RADIATION HANFORD PROJECT RADIOACTIVE WASTE DISPOSAL BETA RADIATION RH-RU-106 WASTE DISPOSAL AQUIFERS SR-90 CS-137

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL CHROMIUM GROUND WATER SURFACE WATERS AQUIFERS RADIOACTIVE WASTES TRACERS

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965. NATIONAL REACTOR TESTING STATION RADIOACTIVE WASTE DISPOSAL HYDROLOGY WASTE DISPOSAL SR-90 GROUND WATER SURFACE WATERS AQUIFERS RADIOACTIVE WASTES

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL SUMMARY, 1968. RIVERS WASTE DISPOSAL RADIOACTIVE WASTE DISPOSAL RADIOACTIVITY AR-41 ILLINOIS RIVER DES PLAINES RIVER ATMOSPHERE (TERRESTRIAL) ENVIRONMENTS

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIFERS

07089 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY- JUNE, 1968. GROUND WATER CONTAMINATION CONCENTRATION MAXIMUM PERMISSIBLE CONCENTRATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL AQUIFERS HANFORD PROJECT RU-106

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES. CONTAMINATION NUCLEAR REACTORS REACTORS NUCLEAR POWER NUCLEAR FUEL PLANTS RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONCENTRATION LAKES

07135 ZUR PRAGE DER FESTSETZUNG HOECHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER. (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER.) NUCLEAR REACTORS REACTORS NUCLEAR POWER INDUSTRY GERMANY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL RADIATION DOSE RIVERS OCEANS

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. RADIOLOGICAL HAZARDS RADIATION EXPOSURE CONTAMINATION ENVIRONMENTAL MONITORING RADIATION DOSE SR-90 DECONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL I-131 PU-239

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO; ANNUAL PROGRESS REPORT, 1963. NATIONAL REACTOR TESTING STATION HYDROLOGY GEOLOGY RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL DISTRIBUTION RADIOACTIVITY RADIOACTIVE WASTES GROUND WATER VERTICAL DISTRIBUTION

07163 PROGRESS REPORT: 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

WASTE WATER

06805 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, JULY-DECEMBER, 1964 AND ANNUAL SUMMARY, 1964. RADIATION WASTE WATER FISSION PRODUCTS ALPHA RADIATION BETA RADIATION ATMOSPHERE (TERRESTRIAL)

WASTES

06208 RADIOACTIVE WASTES FROM FUSION REACTORS. RADIOACTIVE WASTES WASTES NUCLEAR REACTORS NUCLEAR POWER INDUSTRY FUSION FUELS

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN SOIL WATER. FRACTIONATION SOIL MOISTURE DEUTERIUM WASTES RADIOACTIVE AGE DETERMINATION TRACERS GROUND WATER SURFACE WATERS CLAYS SEDIMENTS SOILS DAVIDSON CLAY KAOLINITE ISOTOPE EXCHANGE MONTMORILLONITE

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. HANFORD PROJECT ENVIRONMENTAL RADIATION RADIATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL COOLING WATER RIVERS RADIATION EXPOSURE COLUMBIA RIVER GROUND WATER RADIOACTIVE WASTES WASTES

06286 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. RADIOACTIVE WASTE DISPOSAL RADIOACTIVE WASTES WASTE DISPOSAL WASTES MOVEMENT GROUND WATER TRACERS STREAMS SAVANNAH RIVER PLANT

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. MOVEMENT AQUIPERS CANADA PERCH LAKE RADIOACTIVE WASTES WASTES RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL LAKES GROUND WATER TRITIATED WATER

07036 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS. NUCLEAR REACTORS REACTORS NUCLEAR POWER WASTES RADIOACTIVE WASTES SURFACE WATERS CONCENTRATION SAMPLING TRITIATED WATER

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07083 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963. CONCENTRATION GROUND WATER HANFORD PROJECT WASTES CONTAMINATION RADIOACTIVE WASTES

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEepage

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1961. QUARTERLY PROGRESS REPORT. PU-238 COLUMBIA RIVER RIVERS RADIATION EFFECTS RADIOACTIVE WASTES WASTES FISH PLANTS ABSORPTION GASTROINTESTINAL TRACT RADIOTOXICITY RATS TRANSLOCATION RODENTS RETENTION TRITIUM OXIDE FIXATION BACTERIA MICROORGANISMS

WATER

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BIOLOGICAL HALF-LIFE RADIOCHEMICAL ANALYSIS URINE ASSIMILATION MAN AGE TEMPERATURE WATER HALF-LIFE ANALYSIS SAVANNAH RIVER PLANT

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. LONG SHOT CHEMICAL ANALYSIS RADIOCHEMICAL ANALYSIS ALASKA AMCHITKA ISLAND ALUTIAN ISLANDS WATER SPECTROCHEMICAL ANALYSIS

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957. WATER NUCLEAR TESTING ACCUMULATION SNOW REDWING OPERATION

OPERATION CASTLE ATMOSPHERIC NUCLEAR TESTING DEPOSITION POLAR REGIONS OPERATIONS PRECIPITATION (METEOROLOGICAL)

06192 ESTIMATION OF MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOISOTOPES IN WATER (MPC)W FROM INTERSPECIES CORRELATIONS I COMPARISON OF ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND TRITIUM. ZN-65 MAXIMUM PERMISSIBLE CONCENTRATION WATER MAN RETENTION

06243 ANSWERS TO QUESTIONS POSED BY THE COLORADO COMMITTEE FOR ENVIRONMENTAL INFORMATION RELATING TO THE FORTHCOMING RULISON UNDERGROUND NUCLEAR EXPLOSION IN WESTERN COLORADO. UNDERGROUND NUCLEAR EXPLOSIONS EXPLOSIONS NUCLEAR EXPLOSIONS UNDERGROUND NUCLEAR TESTING NUCLEAR TESTING TRANSPORT CONTAMINATION ATMOSPHERE (TERRESTRIAL) SOILS WATER GEOLOGY HYDROLOGY NATURAL GAS KR-85 C-14 COLORADO PLOWSHARE PROGRAM PROJECT GASBUGGY PROJECT RULISON

06249 ISOTOPE EFFECTS IN MIXTURES OF LIQUID H2O AND T2O. EQUILIBRIUM CONSTANTS WATER DEUTERIUM

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. MAN GREENLAND CANADA ALASKA RIVERS INSTRUMENTS PRECIPITATION (METEOROLOGICAL) ATMOSPHERE (TERRESTRIAL) EQUIPMENT WATER URINE

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY PROGRESS REPORT ON THE THEORETICAL EVALUATION OF CONSUMER PRODUCTS FROM PROJECT GASBUGGY. LIQUID HYDROCARBONS NATURAL GAS WATER GASES PLOWSHARE PROGRAM KR-85 PROJECT GASBUGGY

06387 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. RIVERS WATER TRANSPORT MATHEMATICAL MODELS MODELS HALF-LIFE HYDROLOGY

06397 TRITIUM IN NATURE. COSMIC RADIATION PRECIPITATION (METEOROLOGICAL) WATER LAKES OCEANS RIVERS SURFACE WATERS PRODUCTION RATE WINE SEA WATER

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06437 THE MECHANISM OF THE TRIOSEPHOSPHATE ISOMERASE REACTION. CHEMICAL REACTIONS WATER ENZYMES TAGGING TRITIATED WATER ISOMERIZATION MUSCLE

06483 DETERMINATION OF TRITIUM IN WATER AND URINE. ELECTROLYSIS SCINTILLATION COUNTING CHEMICAL ANALYSIS ANALYSIS URINE WATER URINE ANALYSIS

06611 MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND O-18 THROUGH ACIDIC KAOLINIFIC SOIL. O-18 TRACERS WATER SOILS DEUTERIUM MOVEMENT

06624 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1964 AND 1964 SUMMARY. PLUTONIUM POLONIUM AIR WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06625 ENVIRONMENTAL MONITORING; SEMIANNUAL REPORT, JANUARY-JUNE, 1964. AIR PLUTONIUM POLONIUM WATER MIAMI RIVER ENVIRONMENTAL MONITORING

06626 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1965. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06627 ENVIRONMENTAL MONITORING REPORT; JULY-DECEMBER 1965 AND 1965 SUMMARY. AIR PLUTONIUM POLONIUM WATER ENVIRONMENTAL MONITORING MIAMI RIVER

06628 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. SAVANNAH RIVER PLANT VEGETATION MILK FOODS WATER BETA RADIATION RADIATION GAMMA RADIATION ALPHA RADIATION ENVIRONMENTAL MONITORING

06632 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE, 1966. POLONIUM PLUTONIUM MIAMI RIVER AIR WATER ENVIRONMENTAL MONITORING CONCENTRATION

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN BODY. URANIUM THORIUM ACTINIUM K-40 C-14 MAN FOODS METABOLISM RADIATION WATER

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY-DECEMBER 1965. ENVIRONMENTAL MONITORING ATMOSPHERE (TERRESTRIAL) VEGETATION FOODS WATER MILK RADIOACTIVE WASTES CONTAMINATION RADIATION FISH RIVERS SAVANNAH RIVER SAVANNAH RIVER PLANT ALGAE SR-90 BETA RADIATION

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. SR-90 ALPHA RADIATION BETA RADIATION RADIATION GAMMA RADIATION SOILS PLANTS MILK SEDIMENTS WATER FOODS DAIRY PRODUCTS ENVIRONMENTAL MONITORING

06962 DER NATUERLICHE TRITIUMHAUSHALT DER ERDE UND DIE FRAGE SEINER ZEITLICHEN VARIATION. (THE NATURAL TRITIUM BALANCE OF THE EARTH AND THE QUESTION OF ITS CHRONOLOGICAL VARIATION). ATMOSPHERE (TERRESTRIAL) DISTRIBUTION PERIODIC VARIATIONS WATER

06984 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. PU-239 C-14 CONCENTRATION MAN DIETS WATER ORGANS MONITORING NETWORKS AIRBORNE PARTICULATES

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. MILROW CONCENTRATION PLOWSHARE PROGRAM ALBERTIAN ISLANDS ALASKA EXPLOSIONS UNDERGROUND NUCLEAR EXPLOSIONS NUCLEAR EXPLOSIONS ENVIRONMENTAL MONITORING ANCHITKA ISLAND WATER

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07056 THE PERCH LAKE EVAPORATION STUDY. RADIOACTIVE TRACERS TRACERS MOVEMENT HYDROLOGICAL CYCLING TRITIATED WATER VAPOR EVAPORATION TRITIATED WATER GROUND WATER WATER SURFACE WATERS

07062 MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION. LABORATORY METHODS RAINWATER TRACERS METEOROLOGY WATER CIRCULATION ELECTROLYTIC ENRICHMENT MEASUREMENT

07066 PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT; I. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN-WATER SYSTEM. NUCLEAR EXPLOSIONS EXPLOSIONS SALT MEDIUM ISOTOPE EXCHANGE EXCHANGE RATE DEUTERIUM WATER

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY. SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. RADIOACTIVITY TRITIUM OXIDE FOODS ATMOSPHERE (TERRESTRIAL) WATER VEGETATION FISH MILK GAMMA RADIATION CS-137 CS-134 CE-141 CE-144 RU-103 RU-106 ZR-95 NB-95 BE-7 BA-140 LA-140 NP-239 MONITORING SAVANNAH RIVER PLANT

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER, 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK RADIOACTIVE WASTES

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR NEW YORK CONCENTRATION RADIOACTIVE WASTES

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. ENVIRONMENTAL MONITORING FALLOUT FOODS CROPS MILK DAIRY PRODUCTS WATER SOILS FISH CONCENTRATION AIR NEW YORK VEGETATION SR-90 I-129 RADIOACTIVE WASTES

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. FOODS ENVIRONMENTAL MONITORING RADIOACTIVE WASTES FALLOUT CROPS MILK DAIRY PRODUCTS WATER SOILS FISH VEGETATION SR-90 I-129 AIR CONCENTRATION NEW YORK

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. RADIOACTIVE WASTES ENVIRONMENTAL MONITORING FALLOUT FISH FOODS CROPS DAIRY PRODUCTS MILK SOILS WATER VEGETATION AIR

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL SAFETY REPORT GB-2R PHASE I PROGRAM. WATER VEGETATION SOILS CONCENTRATION ATMOSPHERE (TERRESTRIAL) PROJECT GASBUGGY SAMPLING NETWORKS FLOWSHARE PROGRAM

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL PERCH LAKE LAKES GROUND WATER WATER PRECIPITATION (METEOROLOGICAL) OTTAWA RIVER RIVERS TREE RINGS ATMOSPHERIC HYDROGEN DEUTERIUM

07164 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 2, FOR THE PERIOD 1 NOVEMBER 1961--31 OCTOBER 1962. ATMOSPHERIC HYDROGEN ATMOSPHERIC METHANE PRECIPITATION (METEOROLOGICAL) WATER CONCENTRATION METEORITES GERMANY

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

7 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM. COSMIC RADIATION METEOROLOGY WATER HYDROLOGY RADIOACTIVE AGE DETERMINATION WATER SUPPLY PLANTS TRACERS

WATER BALANCE

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. WATER BALANCE GROUND WATER RESIDENCE TIME OCEANS MIXING RADIATION NORTH AMERICA RAINOUT TRANSPORT PRECIPITATION (METEOROLOGICAL) SNOW DEPOSITION HYDROLOGY COSMIC RADIATION CIRCULATION WASHOUT RAINWATER SURFACE WATERS

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS WATER EXCHANGE BARRIERS WATER BALANCE LUNGS SKIN BODY WATER GASTROINTESTINAL TRACT PHYSICAL PROPERTIES

07166 VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. O-18 CONCENTRATION PRECIPITATION (METEOROLOGICAL) SNOWPACK CZECHOSLOVAKIA SNOW RAINFALL WATER BALANCE

WATER BUDGET

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

WATER EXCHANGE

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. DEUTERIUM TRACERS WATER EXCHANGE BARRIERS WATER BALANCE LUNGS SKIN BODY WATER GASTROINTESTINAL TRACT PHYSICAL PROPERTIES

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM. TRITIATED WATER SOILS SOIL MOISTURE MOVEMENT RESIDENCE TIME PLANTS WATER EXCHANGE TROPICS SPECIFIC ACTIVITIES WATER BUDGET RAINFORESTS FORESTS PUERTO RICO

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT IN A TROPICAL RAIN FOREST. MOVEMENT RAINFORESTS FORESTS PUERTO RICO SURFACE WATERS SOILS TRITIATED WATER WATER EXCHANGE TRANSPIRATION TROPICS RESIDENCE TIME HYDROLOGY RAINOUT DISTRIBUTION UPTAKE TREES

WATER FLOW

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. CA-45 SR-89 WATER FLOW RADIAL FLOW VELOCITY COMPLEX POTENTIAL FUNCTION STREAM FUNCTION DISTORTED FLOW SORPTION EQUIPOTENTIAL CONTOURS COEFFICIENT OF DISPERSION SOLUTION BREAK THROUGH MOVEMENT SANDSTONE MATHEMATICAL MODELS

WATER MOVEMENT

06809 RADIOACTIVITY IN THE HYDROLOGIC ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT REPORT. WATER MOVEMENT RADIOACTIVITY CONCENTRATION SR-90 PROJECT RULISON HYDROLOGY FLOWSHARE PROGRAM

WATER POLLUTION

06465 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1966. SURFACE WATERS CLINCH RIVER RIVERS POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06466 TRITIUM IN SURFACE WATER NETWORK, 1967. SURFACE WATERS RIVERS SAVANNAH RIVER POLLUTION WATER POLLUTION NUCLEAR FUEL PLANTS CONTAMINATION SAMPLING

06471 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1969. SAMPLING SURFACE WATERS CLINCH RIVER RIVERS WATER POLLUTION POLLUTION NUCLEAR FUEL PLANTS

WATER SHOCK

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MILROW RADIOACTIVITY GROUND WATER CONCENTRATION SEEPAGE NUCLEAR CHIMNEYS DILUTION ALASKA ALUTIAN ISLANDS AMCHITKA ISLAND TSUNAMIS BIOLOGICAL EFFECTS UNDERGROUND NUCLEAR EXPLOSIONS GROUND SHOCK WATER SHOCK SEISMICITY ANIMALS EARTHQUAKES NUCLEAR EXPLOSIONS SEA WATER FLOWSHARE PROGRAM

WATER STORAGE

06267 AQUIFER STORAGE DETERMINATION BY RADIOTRACER TECHNIQUES. TRACERS WATER STORAGE AQUIFERS MODELS MATHEMATICAL MODELS GROUND WATER CONCENTRATION

WATER SUPPLY

7 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM. COSMIC RADIATION METEOROLOGY WATER HYDROLOGY RADIOACTIVE AGE DETERMINATION WATER SUPPLY PLANTS TRACERS

WATER TABLE

06213 OXYGENE-18 ET TRITIUM DANS LE BASSIN DEVIAN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). O-18 HYDRODYNAMICS FRANCE SAMPLING WATER TABLE HYDROLOGY TRACERS

WATER VAPOR

05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. TRACERS WATER DISTRIBUTION ATMOSPHERE (TERRESTRIAL) WATER VAPOR TRANSFER LAKES SOILS MATHEMATICAL ANALYSIS ANALYSIS PRECIPITATION (METEOROLOGICAL) RAINFALL MIXING EXCHANGE VERTICAL DISTRIBUTION

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. ABSORPTION INHALATION SKIN CONTAMINATION BODY WATER URINE BODY FLUIDS ELIMINATION BIOLOGICAL HALF-LIFE MAN HALF-LIFE TRITIATED WATER WATER VAPOR

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON HILDA 1964 AND BETSY 1965. DESTRUCTIVE FACTORS WATER VAPOR SEA WATER SALT WATER STORMS HURRICANES GASES CONCENTRATION

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. PRECIPITATION (METEOROLOGICAL) VERTICAL DISTRIBUTION METEOROLOGY SEA WATER O-18 CIRCULATION FALLOUT HUMIDITY EVAPORATION DISTRIBUTION RAINWATER SALT WATER WATER VAPOR GASES DEUTERIUM

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. PRECIPITATION (METEOROLOGICAL) NORTH AMERICA TROPOSPHERE STRATOSPHERE RESIDENCE TIME COSMIC RADIATION RADIATION NUCLEAR TESTING TRANSPORT WATER VAPOR GASES DEUTERIUM PRODUCTION RATE ATMOSPHERIC NUCLEAR TESTING

06283 THE RADIATION CHEMISTRY OF WATER VAPOR, THE INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF D-ATOMS WITH WATER MOLECULES. DECOMPOSITION REACTIONS BUTERIUM WATER VAPOR GASES RADIOLYSIS RADIOCHEMISTRY EXCHANGE

06287 THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS. PLANTS SOVIET UNION WATER VAPOR GASES PRECIPITATION (METEOROLOGICAL) LAKES RIVERS GROUND WATER CONCENTRATION

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, APRIL 1 TO JUNE 30, 1969. PRECIPITATION (METEOROLOGICAL) RIVERS GASES INSTRUMENTS EQUIPMENT ABSORPTION WATER VAPOR CANADA TRITIATED WATER

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF CYCLIC DRYING. WATER VAPOR GASES CELLULOSE CHEMICAL REACTIONS EXCHANGE REACTIONS CHEMICAL ANALYSIS ANALYSIS

06366 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. FLOWERING PLANTS WATER VAPOR HELIANTHUS PLANTS NICOTIANA GASES TISSUES MOVEMENT DISTRIBUTION TRITIATED WATER TRANSPIRATION

06369 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. WATER VAPOR GASES SKIN MAN BODY BURDEN URINALYSER INSTRUMENTS EQUIPMENT IONIZATION CHAMBER SCINTILLATION COUNTERS PROTECTIVE CLOTHING ABSORPTION TRITIATED WATER

06385 STUDYING THE DIFFUSION OF AQUEOUS VAPOURS IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM. RADIOACTIVE TRACERS TRACERS DIFFUSION WATER VAPOR GASES ORGANIC COMPOUNDS POLYMERS

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING URINE TRITIATED WATER SAFETY TRITIATED WATER VAPOR CHALK RIVER

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES. RADIOACTIVE TRACERS TRACERS TRANSFER GASES WATER VAPOR PRECIPITATION (METEOROLOGICAL) IODINE SNOW DEPOSITION TRITIATED WATER VAPOR

06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR LA VAPEUR D'EAU TRITIÉE AUPRÈS DE LA PILE EL 3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR EL 3). AIR POLLUTION WATER VAPOR CONTAMINATION POLLUTION GASES EQUIPMENT NUCLEAR REACTORS TRITIATED WATER VAPOR AIRBORNE CONTAMINATION

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. PRECIPITATION (METEOROLOGICAL) RIVERS SKIN ABSORPTION WATER VAPOR GASES ATMOSPHERE (TERRESTRIAL) MODELS COMPUTER MODELS EQUIPMENT CANADA ALASKA GREENLAND TRITIATED WATER

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER. TRITIATED WATER INTAKE RATE UPTAKE BLOTTER EFFECT HUMIDITY RESPIRATION RATE SPECIFIC ACTIVITIES WATER VAPOR TRITIATED WATER VAPOR SKIN

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 O-18 WATER VAPOR CARBON DIOXIDE HUMIDITY STRATOSPHERE COSMIC RADIATION RADIATION GASES CONCENTRATION

06846 ESTIMATION OF DILUTION RATE FACTORS FOR TRITIATED WATER VAPOUR FROM A REACTOR STACK. TRITIATED WATER NUCLEAR REACTORS DILUTION RATE WATER VAPOR

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. EXCHANGE MIXING ATMOSPHERE (TERRESTRIAL) STRATOSPHERE TROPOSPHERE WATER VAPOR TRANSPORT MODELS METEOROLOGY RESIDENCE TIME RAINFALL PRECIPITATION (METEOROLOGICAL) SEASONAL VARIATIONS

06941 RISQUES PRESENTES PAR LA DIFFUSION DE GRANDES QUANTITES DE TRITIUM DANS L'ATMOSPHERE (DANGERS PRESENTED BY THE DIFFUSION OF LARGE QUANTITIES OF TRITIUM IN THE ATMOSPHERE). HYDROGEN DIFFUSION DIFFUSION ISOTOPIC DIFFUSION ISOTOPE EXCHANGE WATER VAPOR MAXIMUM PERMISSIBLE CONCENTRATION

06946 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). DETECTION RADIATION WATER VAPOR METHANE ORGANIC GASES PROPORTIONAL COUNTER MONITORING BETA RADIATION HYDROGEN

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. WATER VAPOR METHANE ATMOSPHERIC HYDROGEN CONCENTRATION STRATOSPHERE DEUTERIUM SPECIFIC ACTIVITIES

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND ITS OCCURRENCE IN ATMOSPHERIC METHANE. DISTRIBUTION WATER VAPOR ATMOSPHERIC METHANE ATMOSPHERIC HYDROGEN EXCHANGE STRATOSPHERE TROPOSPHERE TRITIATED WATER MIXING ATMOSPHERIC NUCLEAR TESTING NUCLEAR TESTING ISOTOPE EXCHANGE ATMOSPHERIC TRITIUM NUCLEAR RADIATION PERIODIC VARIATIONS C-14

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. AIR ATMOSPHERIC TRITIUM WATER VAPOR TRANSFER LAKES LAKE TAHOE TRANSFER RATES EQUATIONS

07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN. WASHOUT TRITIATED WATER WATER VAPOR RAINWATER EXCHANGE SPECIFIC ACTIVITIES STACK EMISSIONS

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS; SEVENTH PROGRESS REPORT. VERTICAL DISTRIBUTION DISTRIBUTION TROPOSPHERE CONCENTRATION WATER VAPOR EVAPOTRANSPIRATION MIXING ILLINOIS

07102 A RELATION BETWEEN PROTIUM/TRITIUM AND PROTIUM/DEUTERIUM ISOTOPE EFFECTS. DEUTERIUM ISOTOPE EFFECT 07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) RADIOLOGICAL HAZARDS DETECTION TRANSFER AQUIPERS ABSORPTION INHALATION DOSIMETRY RADIOBIOLOGY WATER VAPOR

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). PROJECT RULISON PLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ENVIRONMENTAL MONITORING CONCENTRATION WATER VAPOR MILK DAIRY PRODUCTS FOODS LIVESTOCK VEGETATION NATURAL GAS CONTAMINATION

WATERSHEDS

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. HYDROLOGY WATERSHEDS PRECIPITATION (METEOROLOGICAL) RUNOFF RIVERS CONCENTRATION GEOLOGY MORPHOLOGY EQUATIONS AIR

WEATHERING

04862 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. SOILS CHEMICAL ANALYSIS PHYSICAL ANALYSIS ANALYSIS CHEMICAL COMPOSITION POTASSIUM CARBON CLAYS SILICATES WEATHERING RADIOACTIVITY RUBIDIUM URANIUM RADIUM RADON METALS PLANTS LEACHING NONMETALS

WEIGHT

05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT. HALF-LIFE EFFECTIVE HALF-LIFE ASSIMILATION MAN BIOLOGICAL HALF-LIFE TEMPERATURE WEIGHT AGE

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. MATHEMATICAL MODELS DOSE ESTIMATION BIOLOGICAL HALF-LIFE MODELS INHALATION INGESTION I-131 AGE WEIGHT BODY WATER BODY FLUIDS HALF-LIFE PLOWSHARE PROGRAM COMPUTER MODELS NATURAL GAS MILK PROJECT KETCH EXREM INREM AGE-DEPENDENT MODELS

WELL WATER

06956 MEASUREMENT OF TRITIUM AT NATURAL LEVELS.

CITY WATER RAINWATER WELL WATER NUCLEAR TESTING PRECIPITATION (METEOROLOGICAL) CONTAMINATION

WELLS

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN PRESNO COUNTY, CALIFORNIA. WELLS AQUIPERS IRRIGATION GROUND WATER CALIFORNIA VELOCITY NUCLEAR TESTING MOVEMENT

06881 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY-JUNE, 1967. SR-90 CS-137 RH-RU-106 HANFORD PROJECT GAMMA RADIATION ALPHA RADIATION BETA RADIATION RADIATION WELLS GROUND WATER RADIOACTIVE WASTES RADIOACTIVE WASTE DISPOSAL

06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1967. GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL HYDROGEOLOGY HANFORD PROJECT WELLS RU-106 SR-90 CS-137 CO-60 CONTAMINATION RADIOACTIVITY NITRATES NITROGEN COMPOUNDS

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

07039 TENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. CO-60 CR-51 I-131 CE-144 RU-106 AG-110 RADIOACTIVE WASTES WASTES HYDROLOGY MIGRATION RETENTION REGOLITH BASALT GROUND WATER RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL CONTAMINATION NATIONAL REACTOR TESTING STATION WELLS AQUIPERS

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO. PROJECT RULISON PLOWSHARE PROGRAM MONITORING RADIOCHEMICAL ANALYSIS STREAMS WELLS SPRINGS RESERVOIRS SURFACE WATERS

WESER RIVER

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

WHITE OAK CREEK

07108 STATUS REPORT NO. 5 ON CLINCH RIVER STUDY. STREAMS CLINCH RIVER RIVERS WHITE OAK CREEK CONCENTRATION SEDIMENTS DISTRIBUTION RADIOACTIVE WASTES WASTES CONTAMINATION RADIOACTIVE WASTE DISPOSAL WASTE DISPOSAL SURFACE SEEPAGE

WHOLE BODY EXPOSURE

06264 ESTIMATION OF WHOLE BODY DOSE (REM) FROM TRITIUM IN BODY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE BODY BURDEN URINE BODY WATER DOSE ESTIMATION

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. MAXIMUM PERMISSIBLE CONCENTRATION BODY BURDEN BIOLOGICAL HALF-LIFE HALF-LIFE WHOLE BODY EXPOSURE RADIATION EXPOSURE URINE ORGANS SKIN MAN

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. METABOLISM RATS MAMMALS BLOOD RODENTS INHALATION RETENTION WHOLE BODY EXPOSURE TISSUES ORGANS RADIATION EXPOSURE TRITIUM GAS

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. ABSORPTION SKIN TRITIUM OXIDE OXIDES GASES WATER VAPOR RATS MAMMALS RODENTS MAN PRESSURE WHOLE BODY EXPOSURE RADIATION EXPOSURE VAPOR PRESSURE HUMIDITY

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM OXIDE. TRITIUM OXIDE OXIDES DISTRIBUTION TISSUES RATS ORGANS RETENTION MAMMALS RODENTS BODY WATER BODY FLUIDS RADIATION EXPOSURE SHEEP DOMESTIC ANIMALS LIVESTOCK DOSE RATES WHOLE BODY EXPOSURE

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. TISSUES GASES RATS MAMMALS RODENTS WHOLE BODY EXPOSURE RADIATION EXPOSURE TRITIUM GAS TRITIUM OXIDE DISTRIBUTION RETENTION

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE. OXIDES RATS RODENTS RADIATION EXPOSURE DISTRIBUTION WHOLE BODY EXPOSURE MAMMALS TRITIUM OXIDE RETENTION

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. NATURAL GAS WHOLE BODY EXPOSURE RADIATION EXPOSURE FOODS KR-85 RADIOACTIVE TRACERS TRACERS ENGINEERING CONTAMINATION MAXIMUM PERMISSIBLE CONCENTRATION

06418 PERFORMANCE OF AN AUTOMATIC ANALYSER FOR TRITIUM IN URINE. SCINTILLATION COUNTERS RADIATION EXPOSURE WHOLE BODY EXPOSURE EQUIPMENT INSTRUMENTS URINE

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-160 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. WHOLE BODY EXPOSURE RADIATION EXPOSURE WATER VAPOR SKIN CLOTHING URINE TRITIATED WATER SAFETY TRITIATED WATER VAPOR CHALK RIVER

06599 TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER. OXIDES HAZARDS WHOLE BODY EXPOSURE ABSORPTION RADIATION EXPOSURE MAXIMUM PERMISSIBLE CONCENTRATION SAFETY TRITIUM OXIDE EXCRETION

06609 ANALYSIS OF EXTERNAL EXPOSURES IN 1966. RADIATION EXPOSURE WHOLE BODY EXPOSURE GAMMA RADIATION DOSIMETRY BETA RADIATION

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. URINE EXCRETION EQUATIONS ANALYSIS MODELS WHOLE BODY EXPOSURE RADIATION EXPOSURE MATHEMATICAL ANALYSIS MATHEMATICAL MODELS TRITIATED WATER DOSE ESTIMATION MAN

06628 REMOTE TRITIUM AIR MONITORING SYSTEM. WHOLE BODY EXPOSURE RADIATION EXPOSURE SAVANNAH RIVER PLANT HAZARDS ABSORPTION CLOTHING TRITIUM OXIDE ENVIRONMENTAL MONITORING

06610 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ORGANS MICE TRITIATED WATER IRRADIATION SKIN WHOLE BODY EXPOSURE RADIATION EFFECTS

06631 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. TRITIATED WATER RADIATION DOSE RADIATION BREMSSTRAHLUNG TISSUES BODY FLUIDS HAZARDS ABSORPTION BETA RADIATION WHOLE BODY EXPOSURE RADIOLOGICAL HAZARDS

07002 (HUMAN BODY DOSES FROM NATURAL RADIOACTIVITIES.) RN-222 RN-220 C-14 K-40 RA-228 PB-210 BI-210 PO-210 RADIATION DOSE COSMIC RADIATION RADIATION ATMOSPHERE (TERRESTRIAL) ORGANS MAN RADIATION EXPOSURE WHOLE BODY EXPOSURE

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM METHOD OF MEASURING TOTAL BODY WATER. BODY WATER RADIOLOGICAL HAZARDS TRITIATED WATER RADIOBIOLOGY RADIATION EXPOSURE WHOLE BODY EXPOSURE

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968. RADIATION DOSE INGESTION NUCLEAR FUEL PLANTS INHALATION SR-90 CS-137 KR-85 MILK DEER CONCENTRATION FISH WATER BONE WHOLE BODY EXPOSURE GASTROINTESTINAL TRACT MAN RU-RH-106

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. PROJECT RULISON FLOWSHARE PROGRAM RADIOLOGICAL HAZARDS ABSORBED DOSE DOSE ESTIMATION INHALATION FOOD-CHAINS DNA FLARING RAINOUT WASHOUT INGESTION RADIATION DOSE WHOLE BODY EXPOSURE

RADIATION EXPOSURE RADIOLOGICAL HAZARDS GENETIC EFFECTS RADIATION EFFECTS MUTATIONS MAN

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS. AR-41 RADIATION DOSE RADIOLOGICAL HAZARDS NUCLEAR FUEL PLANTS MAXIMUM CREDIBLE ACCIDENT THYROID GLAND BONE WHOLE BODY EXPOSURE NUCLEAR REACTORS

WINDS

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PRECIPITATION (METEOROLOGICAL) GAS PROPORTIONAL COUNTERS O-16 EUROPE MEDITERRANEAN AFRICA ASIA OCEANS INDIAN OCEAN PACIFIC OCEAN NORTH AMERICA SOUTH AMERICA WINDS DISTRIBUTION METEOROLOGY CIRCULATION FALLOUT SR-90 DEPOSITION STRATOSPHERE TROPOSPHERE TRANSFER EQUIPMENT INSTRUMENTS HYDROLOGY DEUTERIUM

WINDSCALE

06614 A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE. ACCIDENTS ATMOSPHERE (TERRESTRIAL) GASES HYDROGEN TRITIATED HYDROGEN WINDSCALE NUCLEAR REACTORS

WINES

06253 THE NATURAL DISTRIBUTION OF TRITIUM. COSMIC RADIATION SURFACE WATERS RADIATION DISTRIBUTION METEOROLOGY HYDROLOGY BEVERAGES WINES PRODUCTION RATE PRECIPITATION (METEOROLOGICAL) T/H RATIO

06397 TRITIUM IN NATURE. COSMIC RADIATION PRECIPITATION (METEOROLOGICAL) WATER LAKES OCEANS RIVERS SURFACE WATERS PRODUCTION RATE WINES SEA WATER

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM II. DISTRIBUTION COSMIC RADIATION SURFACE WATERS RADIATION RAINFALL PRECIPITATION (METEOROLOGICAL) TRITIATED WATER SEA WATER FRESH WATER WINES

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. WINES RAINWATER PRECIPITATION (METEOROLOGICAL) HYDROLOGY RIVER WATER TAP WATER GROUND WATER WELLS SPRINGS JAPAN CONCENTRATION

07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES; GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS. GROUND WATER SURFACE WATERS EUROPE WINES CONCENTRATION CASTLE TESTS RUNOFF RAINFALL PRECIPITATION (METEOROLOGICAL) RIVERS MODELS WESER RIVER GERMANY

WOOD

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND. C-14 MARSHALL ISLANDS PLANTS SOILS RETENTION NUCLEAR TESTING ATOLLS SEA WATER RAINWATER SAMPLING WOOD ANIMALS LEAVES LITTER PACIFIC PROVING GROUNDS

W-181

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 FLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. W-181 DISTRIBUTION MOVEMENT SEDAN PROJECT SCHOONER NUCLEAR CRATERS NUCLEAR TESTING EJECTA CONCENTRATION RAINFALL SOIL MOISTURE PRECIPITATION (METEOROLOGICAL) SPECIFIC ACTIVITIES FALLOUT CO-57 RU-103 MN-54 NB-95 CO-58 Y-86

W-185

06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FALLOUT MASS EXTRACTION RATE SPECIFIC ACTIVITIES MAN DOSE ESTIMATION SEDAN PB-210 K-40 W-185 W-181 P-32 PLOWSHARE PROGRAM TRITIATED WATER NUCLEAR CRATERS

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

W-187

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. RADIATION EXPOSURE EXTERNAL DOSE INTERNAL DOSE RADIATION DOSE NUCLEAR CLOUDS NUCLEAR EXPLOSIONS CRATERING DEPOSITION SR-89 SR-90 RU-106 I-131 CS-137 TE-132 CS-136 NA-24 P-32 SC-48 MN-56 W-181 W-185 W-187 PB-203 HG-203 MAN FOOD-CHAINS DOSE ESTIMATION

XENON

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC RESERVOIRS. AR-37 AR-39 C-14 RADIATION RADIOACTIVITY SPECIFIC ACTIVITIES ENVIRONMENTS ATMOSPHERE (TERRESTRIAL) COSMIC RADIATION KRYPTON XENON

XEROPHIL

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPDOMYS DESERTI WITH TRITIATED WATER. BODY WATER BODY FLUIDS KANGAROO RATS RODENTS MAMMALS BIOLOGICAL HALF-LIFE HALF-LIFE ELIMINATION XEROPHIL METABOLISM

XE-127

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. NATURAL GAS PLOWSHARE PROGRAM METHANE TRITIUM OXIDE NEW MEXICO KR-85 AR-37 AR-39 XE-127 C-14 NUCLEAR CHIMNEYS SPECIFIC ACTIVITIES CONCENTRATION PROJECT GASBUGGY

XE-133

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. NUCLEAR EXPLOSIONS SAFETY NATURAL GAS UNDERGROUND NUCLEAR EXPLOSIONS PLOWSHARE PROGRAM KR-85 XE-133 AR-37 C-14 VEGETATION PROJECT RULISON

X-IRRADIATION

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION STUDIES. TRITIATED THYMIDINE X-IRRADIATION RADIATION ORGANS RATS UPTAKE KIDNEY RADIATION EFFECTS

Y-90

07117 COLUMBIA RIVER STUDIES; ANNUAL PROGRESS REPORT, 1968-1969. Y-90 SR-90 CRASSOSTREA OYSTERS MOLLUSKS BENTHIC FAUNA BENTHOS CONCENTRATION RADIATION EFFECTS GENETIC EFFECTS

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

ZN-65

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF INTERNAL EMITTERS. BODY MAN PLUTONIUM SR-90 CS-137 ZN-65 GA-72 P-32

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. BALTIC SEA FOOD-CHAINS ACCUMULATION RADIOACTIVITY FISH MAN RADIOACTIVE WASTE FLORA FAUNA PB-59 CO-60 ZN-65 SR-90 RU-106 CS-137 PU-239

06192 ESTIMATION OF MAXIMUM PERMISSIBLE

CONCENTRATIONS OF RADIOISOTOPES IN WATER (MPC)W FROM INTERSPECIES CORRELATIONS 1 COMPARISON OF ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND TRITIUM. ZN-65 MAXIMUM PERMISSIBLE CONCENTRATION WATER MAN RETENTION

06428 REPORT OF THE BIOASSAY PROGRAM; JULY 1968 THROUGH JUNE 1969. SAFETY WHOLE BODY EXPOSURE RADIATION EXPOSURE BETA RADIATION ALPHA RADIATION GAMMA RADIATION BIOASSAY MAN P-32 C-14 TB-180 ZN-65 CM-244 CO-57 CO-58 CM-294 WATER AM-241

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. CR-51 CS-137 CU-64 I-131 MN-56 NA-24 P-32 RU-106 SC-46 SI-31 SR-90 ZN-65 ATMOSPHERE (TERRESTRIAL) COLUMBIA RIVER CONCENTRATION GUIDES FISH FOODS MILK RADIOACTIVITY TRITIUM OXIDE

07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1966. CONCENTRATION COLUMBIA RIVER HANFORD PROJECT P-32 ENVIRONMENTAL MONITORING CR-51 ZN-65 I-131 SR-90

ZOOPLANKTON

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY; FINAL REPORT. RADIOACTIVITY SR-90 CONCENTRATION Y-90 CS-137 K-40 RA-226 AZ-65 FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING LAKE MICHIGAN NUCLEAR REACTORS WATER SEDIMENTS BENTHOS ZOOPLANKTON FISH PHYTOPLANKTON CHEMICAL WASTES RADIOACTIVE WASTES

ZR-CB-95

06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES. SR-90 SR-89 CE-141 CE-144 CS-137 RU-103 RU-106 ZR-CB-95 RADIOACTIVE WASTES SAVANNAH RIVER PLANT GROUND WATER MIGRATION SEEPAGE BASIN RADIOACTIVE WASTE DISPOSAL

ZR-NB-95

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPT. JULY-DECEMBER 1966. SAVANNAH RIVER PLANT ENVIRONMENTAL RADIATION VEGETATION FRESH WATER RADIATION ALGAE FISH MONITORING GAMMA RADIATION FALLOUT NUCLEAR TESTING ATMOSPHERIC NUCLEAR TESTING CONCENTRATION RU-103 RU-106 CE-141 CE-144 CS-134 CS-137 BA-CA-140 ZR-NB-95 CR-51 SR-89 I-131 SR-90 CO-60 ZN-65 MN-54 MAXIMUM PERMISSIBLE CONCENTRATION ATMOSPHERE (TERRESTRIAL)

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ATMOSPHERE (TERRESTRIAL) SAVANNAH RIVER RIVERS BACKGROUND RADIATION FALLOUT ENVIRONMENTAL RADIATION RADIATION VEGETATION MILK DAIRY PRODUCTS FOODS NP-239 I-131 BA-LA-140 CS-137 CE-144 RU-103 RU-106 ZR-NB-95 ZN-65 CO-60 SR-90 SR-89 MN-54 CR-51 S-35 BE-7 CE-141 SAVANNAH RIVER PLANT

06884 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. ENVIRONMENTAL MONITORING NUCLEAR FUEL PLANTS STACK DISCHARGES MILK DEER FISH RADIOACTIVE WASTES CONCENTRATION SILT WATER RADIOACTIVITY SR-90 I-131 CS-137 ZR-NB-95 CO-60 RU-106 CS-134 PU-238 PU-239 U-235 U-238 K-40 NEW YORK AIR

ZR-95

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967. (REPORT OF ACTIVITIES; SEPTEMBER 1967.) RADIOACTIVITY ATMOSPHERE (TERRESTRIAL) RAINWATER MILK VEGETABLES BE-7 MN-54 SR-90 ZR-95 RU-103 RH-106 I-131 CS-137 BA-140 THYROID GLAND BONE FISH SEA WATER COWS LIVESTOCK

0-18

06611 MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND
0-L8 THROUGH ACIDIC KAOLINITIC SOIL. 0-18
TRACERS WATER SOILS DEUTERIUM MOVEMENT

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM
AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE
OVER SOUTHERN ENGLAND. ENGLAND C-14 C-13 0-18

337

WATER VAPOR CARBON DIOXIDE HUMIDITY
STRATOSPHERE COSMIC RADIATION RADIATION GASES
CONCENTRATION

* END *

-14 CONTENT OF THE MIDDLE STRATOSPHERE

ABRAHAM, P.

06846 ESTIMATION OF DILUTION RATE FACTORS FOR TRITIATED WATER VAPOUR FROM A REACTOR STACK. SOMAN, S. D. ABRAHAM, P.

ACHE, H. J.

06420 ON THE MECHANISM OF THE SELF-INDUCED EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC HYDROCARBONS. CARR, V. ACHE, H. J.

ADAIR, B.

06809 ANALYSIS OF EXTERNAL EXPOSURES IN 1966. KNIGHT, G. B. ADAIR, B.

ADAMS, A.

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. FLIEDNER, T. M. HAAS, R. J. STEHLER, H. ADAMS, A.

ADAMS, P. C.

06824 ENVIRONMENTAL MONITORING REPORT; JULY - DECEMBER 1964 AND 1964 SUMMARY. ADAMS, P. C.

06825 ENVIRONMENTAL MONITORING; SEMIANNUAL REPORT, JANUARY - JUNE, 1964. ADAMS, P. C.

06826 ENVIRONMENTAL MONITORING REPORT; JANUARY - JUNE, 1965. ADAMS, P. C.

06827 ENVIRONMENTAL MONITORING REPORT; JULY - DECEMBER, 1965 AND 1965 SUMMARY. ADAMS, P. C. ANDERSON, H. P.

AEBERHARDT, A.

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). PALLOT, P. AEBERHARDT, A. MASSON, J.

ABBI, H.

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ZUPPINGER, A. PORETTI, G. SCHWARZ, K. ZAORALEK, P. ABBI, H.

06858 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINGBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). ZUPPINGER, A. PORETTI, G. G. ZAORALEK, P. ABBI, H.

AGNEDAL, P. O.

04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. AGNEDAL, P. O. BERGSTROM, S. O. W.

ALBENESIU E. L.

06438 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT. REINIG, W. C. ALBENESIU E. L.

ALLEN, R. E.

07159 RADIATION SURVEILLANCE NETWORKS. ALLEN, R. E.

ALVINERIE, J.

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM ACTIVITY IN THE SOUTHWEST OF FRANCE). LEVEQUE, P. VIGNEAUX, M. ALVINERIE, J.

07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) ALVINERIE, J. DEGOT, B. LEVEQUE, P. VIGNEAUX, M.

AMBACH, W.

06269 TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. AMBACH, W. BISNER, H. SAUZAY, G.

ANAND, R. S.

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. BAKER, N. P.

BLACK, A. L. ANAND, R. S. PISK, R. A.

ANDERSON, E. C.

06831 A THEORETICAL CONSIDERATION OF THE HAZARDS ASSOCIATED WITH ACUTE EXPOSURE TO HIGH CONCENTRATIONS OF TRITIUM GAS. ANDERSON, E. C. LANGHAM, W.

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. TRUJILLO, T. T. ANDERSON, E. C. LANGHAM, W. H.

ANDERSON, H. P.

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967. ANDERSON, H. P. SHEEHAN, W. E.

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY. ANDERSON, H. P. SHEEHAN, W. E.

06790 ENVIRONMENTAL MONITORING REPORT- JULY-DECEMBER 1969 AND 1969 SUMMARY. ANDERSON, H. P. SHEEHAN, W. E.

06827 ENVIRONMENTAL MONITORING REPORT; JULY - DECEMBER, 1965 AND 1965 SUMMARY. ADAMS, P. C. ANDERSON, H. P.

06832 ENVIRONMENTAL MONITORING REPORT; JANUARY - JUNE, 1966. ANDERSON, H. P. SHEEHAN, W. E.

06883 ENVIRONMENTAL MONITORING REPORT- JULY - DECEMBER 1967 AND 1967 SUMMARY. ANDERSON, H. P. SHEEHAN, W. E.

49 ENVIRONMENTAL MONITORING REPORT; JANUARY-JUNE 1969. ANDERSON, H. P. SHEEHAN, W. E.

ANDERSON, K.

06475 TRITIUM IN NEW YORK STATE WATERS, 1965. ANDERSON, K.

ANONYMOUS

04271 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY, SEMIANNUAL REPORT, JULY - DECEMBER 1966. ANONYMOUS

04866 CHEMICAL DATA FOR AMCHITKA ISLAND, ALASKA PROJECT LONG SHOT FISCAL YEARS 1965 AND 1966. ANONYMOUS

06292 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, APRIL 1 TO JUNE 30, 1969. ANONYMOUS

06293 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, JANUARY 1 TO MARCH 31, 1969. ANONYMOUS

06373 PROGRESS REPORT, APRIL 1 TO JUNE 30, 1968, BIOLOGY AND HEALTH PHYSICS DIVISION. ANONYMOUS

06374 PROGRESS REPORT; BIOLOGY AND HEALTH PHYSICS DIVISION, OCTOBER 1 TO DECEMBER 31, 1968. ANONYMOUS

06423 ACTIVITIES OF AECL IN THE FIELDS OF BIOLOGY, HEALTH PHYSICS AND MEDICINE. ANONYMOUS

06429 PROJECT RULISON; POST-SHOT PLANS AND EVALUATIONS. ANONYMOUS

06465 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1968. ANONYMOUS

06466 TRITIUM IN SURFACE WATER NETWORK, 1967. ANONYMOUS

06470 CARBON-14, TRITIUM, AND PLUTONIUM-239 IN MILK AND TOTAL DIET, JULY 1965 TO DECEMBER 1968. ANONYMOUS

06471 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1969. ANONYMOUS

06476 TRITIUM IN SURFACE WATER NETWORK, JULY-DECEMBER 1968. ANONYMOUS

06491 TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES 2 VOLS PROCEEDINGS OF THE SYMPOSIUM ON THE DETECTION AND USE OF TRITIUM IN THE PHYSICAL AND BIOLOGICAL SCIENCES, HELD IN VIENNA, 3-10 MAY 1961. ANONYMOUS

06633 TRITIUM AND OTHER ENVIRONMENTAL ISOTOPES IN THE HYDROLOGICAL CYCLE, REPORT OF A PANEL. ANONYMOUS

06634 ACTIVITIES OF THE BIOLOGY AND HEALTH PHYSICS DIVISION, CHALK RIVER NUCLEAR LABORATORIES. ANONYMOUS

06635 BIOLOGY AND HEALTH PHYSICS DIVISION, PROGRESS REPORT, JULY 1 TO SEPTEMBER 30, 1968. ANONYMOUS

06795 EFFECT OF THE SAVANNAH RIVER PLANT-ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY THROUGH JUNE 1966. ANONYMOUS

06805 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, JULY-DECEMBER, 1964 AND ANNUAL SUMMARY, 1964. ANONYMOUS

06808 ENVIRONMENT RADIOACTIVITY AT THE SHIPPINGPORT ATOMIC POWER STATION FOR THE SECOND HALF OF 1963 AND FOR CALENDAR YEAR 1963. ANONYMOUS

06819 SHIPPINGPORT ATOMIC POWER STATION, JULY-DECEMBER AND CALENDAR YEAR 1966. ANONYMOUS

06820 MOUND LABORATORY, JANUARY-JUNE 1968. ANONYMOUS

06822 RADIOACTIVITY IN NEW YORK SURFACE WATER, JANUARY-JUNE 1968. ANONYMOUS

06828 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1963. ANONYMOUS

06888 PROJECT SHOAL; POST-SHOT HYDROLOGIC SAFETY; FINAL REPORT. ANONYMOUS

06889 PAPERS PRESENTED AT THE EIGHTH ANNUAL MEETING ON BIOASSAY AND ANALYTICAL CHEMISTRY; 18-19 OCTOBER 1962. ANONYMOUS

06896 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JANUARY-JUNE 1969. ANONYMOUS

06898 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY; JULY-DECEMBER, 1968; ANNUAL SUMMARY, 1968. ANONYMOUS

06931 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY-DECEMBER 1965. ANONYMOUS

06937 WEST VALLEY REPROCESSING PLANT ENVIRONMENTAL MONITORING SURVEY. ANONYMOUS

06981 TRITIUM IN COMMUNITY WATER SUPPLIES, 1969. ANONYMOUS

06982 TRITIUM IN SURFACE WATER NETWORK, JULY-DECEMBER 1969. ANONYMOUS

06983 TRITIUM IN SURFACE WATER NETWORK, JANUARY-JUNE 1970. ANONYMOUS

07004 BIBLIOGRAPHY ON TRITIUM IN GROUNDWATER AND AS GROUNDWATER TRACER (1964-1965). ANONYMOUS

07051 FINAL REPORT OF OFF-SITE SURVEILLANCE FOR THE MILROW EVENT, OCTOBER 2, 1969. ANONYMOUS

07052 AN INVESTIGATION OF AIRBORNE RADIOACTIVE EFFLUENT FROM AN OPERATING NUCLEAR FUEL REPROCESSING PLANT.

07054 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1968. ANONYMOUS

07055 ANNUAL PROGRESS REPORT FOR PERIOD ENDING MAY 31, 1969. ANONYMOUS

07075 ENVIRONMENTAL MONITORING REPORT-JANUARY-JUNE 1970. ANONYMOUS

07094 SURVEY OF ENVIRONMENTAL RADIOACTIVITY, JULY-DECEMBER 1968. ANONYMOUS

07096 EFFECT OF THE SAVANNAH RIVER PLANT ON ENVIRONMENTAL RADIOACTIVITY; SEMIANNUAL REPORT, JULY THROUGH DECEMBER 1969. ANONYMOUS

07097 RAPPORT D ACTIVITE; SEPTEMBRE 1967 (REPORT OF ACTIVITIES; SEPTEMBER 1967). ANONYMOUS

07107 OFF-SITE RADIOLOGICAL SAFETY AND RESIDENT EVACUATION PROGRAM FOR PROJECT RULISON (DETONATION PHASE). ANONYMOUS

07109 ENVIRONMENTAL REPORT; JANUARY-SEPTEMBER,

1967. ANONYMOUS

07121 PROJECT GASBUGGY OFF-SITE RADIOLOGICAL SAFETY REPORT QB-2R PHASE I PROGRAM. ANONYMOUS

07122 ENVIRONMENTAL SURVEILLANCE FOR PROJECT GASBUGGY, PRODUCTION TEST PHASE. ANONYMOUS

07158 PROJECT BUGGY I OFF-SITE ENVIRONMENTAL SURVEILLANCE. ANONYMOUS

07163 PROGRESS REPORT; 1 OCTOBER TO 31 DECEMBER 1969, BIOLOGY AND HEALTH PHYSICS DIVISION. ANONYMOUS

07182 ENVIRONMENTAL ISOTOPE DATA NO 2 WORLD SURVEY OF ISOTOPE CONCENTRATION IN PRECIPITATION (1964-1965). ANONYMOUS

07190 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. ANONYMOUS

07191 ENVIRONMENTAL EFFECTS OF PRODUCING ELECTRIC POWER. ANONYMOUS

ANSPAUGH, L.

06372 THE PATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN FLOWSHARE EVENTS. SHORE, B. ANSPAUGH, L. CHERTOK, R. GOPMAN, J. HARRISON, P. HEPT, R. KORANDA, J. NG, Y. PHELPS, P. POTTER, G. TAMPLIN, A.

ANSPAUGH, L. R.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKE, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.

07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON. ROBISON, W. L. ANSPAUGH, L. R.

APELGOT, S.

07128 EFFET LETAL DE LA DESINTEGRATION D ATOMES RADIOACTIFS (H-3, C-14, P-32) INCORPORES DANS UNE BACTERIE. (LETHAL EFFECT ON BACTERIUM OF DECAY OF INCORPORATED RADIOACTIVE ATOMS (H-3, C-14, P-32). APELGOT, S.

ARDELLIER, A.

06624 DETECTION DE LA CONTAMINATION DE LAIR PARA LA VAPEUR DEAU TRITIEE AUPRES DE LA PILE EL.3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR EL 3). LEBOULEUX, P. ARDELLIER, A. VALERO, S.

ARNHEIM, J.

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. BIDINOFF, M. L. FERRI, G. C. KNOLL, J. E. MARANO, B. J. ARNHEIM, J.

ARNOLD, W. D.

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. ARNOLD, W. D. BLAKE, C. A., JR. CROUSE, D. J.

06899 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE), PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1968. ARNOLD, W. D. CROUSE, D. J.

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE), PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1969. ARNOLD, W. D. CROUSE, D. J.

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1969. ARNOLD, W. D. CROUSE, D. J.

07084 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1969. ARNOLD, W. D. CROUSE, D. J.

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968. ARNOLD, W. D. CROUSE, D. J.

07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. ARNOLD, W. D. CROUSE, D. J.

07186 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE), PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970 ARNOLD, W D CROUSE, D J

ARONOFF, S

06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER ARONOFF, S CHOI, I C S

ASCHBACHER, P W

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER ASCHBACHER, P W KAMAL, T H CRAGLE, R G

ATHAVALA, R N

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS II CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90 ATHAVALA, R N LAL, D RAMA

06255 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS I TECHNIQUES LAL, D ATHAVALA, R N

AVINUR, P

06355 SEPARATION FACTOR OF TRITIATED WATER FRACTIONAL IN DISTILLATION AVINUR, P NIR, A

AYERS, J C

07183 LAKE MICHIGAN ENVIRONMENTAL SURVEY, FINAL REPORT AYERS, J C

BAINBRIDGE, A E

06228 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN DOCKINS, K O BAINBRIDGE, A E HOUTERMANS, J C SUESS, H E

06334 TRITIUM IN THE NORTH PACIFIC SURFACE WATER BAINBRIDGE, A E

06614 A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE BHHALT, D H BAINBRIDGE, A E

06644 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN AND METHANE BAINBRIDGE, A E SUESS, H E FRIEDMAN, I

06645 TRITIUM IN SURFACE WATERS OF THE NORTH PACIFIC BAINBRIDGE, A E

BAKER, C

06660 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES MCMAHUS, W R PRICHARD, R K BAKER, C PETRUCHENIA, M V

BAKER, N P

06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS BAKER, N P BLACK, A L ANAND, R S FISK, R A

BALLOU, J E

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC STATE OF BODY CONSTITUENTS IN THE RAT THOMPSON, R C BALLOU, J E

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT AND SHEEP THOMPSON, R C BALLOU, J E

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND TRITIUM IN THE RAT THOMPSON, R C BALLOU, J E

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE THOMPSON, R C BALLOU, J E

06380 EFFECT OF RADIATION ON THE INCORPORATION OF TRITIUM BY THE RAT THOMPSON, R C BALLOU, J E

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE THOMPSON, R C BALLOU, J E

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER IV METABOLICALLY INERT LIPIDS AND PROTEIN FRACTIONS FROM THE RAT THOMPSON, R C

BALLOU, J E

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM AND DEUTERIUM THOMPSON, R C BALLOU, J E

BARBER, D E

06843 MAXIMUM PERMISSIBLE CONCENTRATIONS FOR TRITIATED WATER AND TRITIATED THYMIDINE BARBER, D E

BARRACLOUGH, J T

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966 BARRACLOUGH, J T TEASDALE, W E ROBERTSON, J G JENSEN, R G

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965 BARRACLOUGH, J T TEASDALE, W E JENSEN, R G

BARRETT, E W

06897 ATMOSPHERIC TRITIUM ANALYSIS, TECHNICAL PROGRESS REPORT NO 3 BARRETT, E W HUBBNER, L

BARRY, P J

06600 SOME RECENT EXPERIMENTS ON TRANSFER OF RADIOACTIVE TRACERS FROM AIR TO NATURAL SURFACES BARRY, P J

06601 MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE NUCLIDES IN AIRBORNE EFFLUENTS FROM NUCLEAR REACTORS BARRY, P J

07056 THE PERCH LAKE EVAPORATION STUDY BARRY, P J MERRITT, W F

07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM AECL REACTOR STACK BUTLER, G C BARRY, P J

BASERGA, R

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE BASERGA, R LISCO, H KISIELESKI, W E

BATEMAN, A J

07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE BATEMAN, A J CHANDLEY, C

BAZAN, P

06252 THE GEOCHEMISTRY OF TRITIUM GILETTI, B J BAZAN, P KULP, J L

BEDFORD, J S

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE HALL, E J OLIVER, R BEDFORD, J S

BEETEM, W A

07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS IN THE RULISON PROJECT AREA, GARFIELD AND MESA COUNTIES, COLORADO LARSON, J D BEETEM, W A

BEGEMANN, P

05144 TRITIUM ASSAYS OF NATURAL WATERS MEASURED IN 1956-1957 BEGEMANN, P

06223 NEUBESTIMMUNG DER NATUERLICHEN IRDISCHEN TRITIUMZERFALLSRATE UND DIE FRAGE DER HERKUNFT DES NATUERLICHEN TRITIUM (REDETERMINATION OF NATURAL TRITIUM DECAY RATE AND THE QUESTION OF THE SOURCE OF NATURAL TRITIUM) BEGEMANN, P

06241 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN BEGEMANN, P FRIEDMAN, I

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM BEGEMANN, P LIBBY, W F

06259 TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC METHANE BEGEMANN, P FRIEDMAN, I

- 06354 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. BEGEMANN, F.
- 06868 THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN AND ATMOSPHERIC METHANE. BEGEMANN, F.
- 06962 DER NATUERLICHE TRITIUMHAUSHALT DER ERDE UND DIE FRAGE SEINER ZEITLICHEN VARIATION. (THE NATURAL TRITIUM BALANCE OF THE EARTH AND THE QUESTION OF ITS CHRONOLOGICAL VARIATION). BEGEMANN, F.
- 07078 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 1, 1960-OCTOBER 31, 1961. BEGEMANN, F.
- 07164 TRITIUM DETERMINATIONS IN ATMOSPHERIC GASES AND METEORITES. SUMMARY REPORT NO. 2, FOR THE PERIOD 1 NOVEMBER 1961-31 OCTOBER 1962. BEGEMANN, F.
- BEMIS, E. A., JR.
- 06900 A STUDY OF THE DIFFUSION AND MIXING OF TRITIUM GAS IN AIR. ENGELKE, M. J. BEMIS, E. A., JR.
- BERGSTROM, S. O. W.
- 06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. BERGSTROM, S. O. W. DEVELL, L. GEBERT G.
- BERGSTROM, S. O. W.
- 04066 RECIPIENT CAPACITY OF TVAREN, A BALTIC BAY. AGNEDAL, P. O. BERGSTROM, S. O. W.
- BERNARD, S. R.
- 06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL SNYDER, W. S. FISH, B. R. BERNARD, S. R. FORD, M. R. MUIR, J. R.
- BERRY, E. X.
- 06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. ORSTLUND, H. G. BERRY, E. X.
- BERTHOLD, P.
- 06947 MESSGERAT FUR TRITIUM (MEASUREMENT DEVICE FOR TRITIUM). BERTHOLD, P.
- BIANCHI, W. C.
- 06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA. HASKELL, E. B., JR. LEVENTHAL, J. S. BIANCHI, W. C.
- BIBRON, R.
- 06930 DETECTION DU TRITIUM ATMOSPHERIQUE PAR SCINTILLATION; EVOLUTION DE SA CONCENTRATION EN FRANCE (DETECTION OF ATMOSPHERIC TRITIUM BY SCINTILLATION; VARIATIONS IN ITS CONCENTRATION IN FRANCE). BIBRON, R.
- 06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC TRITIUM FROM THERMONUCLEAR EXPLOSIONS). BIBRON, R. DELIBRIAS, G. LABEYRIE, J.
- 07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) BIBRON, R. DELIBRIAS, G. LABEYRIE, J.
- BIDDULPH, O.
- 06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14. BIDDULPH, O. CORY, R.
- BIGLER, W. A.
- 06263 BIOLOGICAL HALF-LIFE OF TRITIUM. WYLIB, K. F. BIGLER, W. A. GROVE, G. R.
- BITO, L. Z.
- 06812 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM AFTER INCORPORATION OF H-3-THYMIDINE. BITO, L. Z. HARDING, C. V.
- BITTEL, R.
- 07103 CONTRIBUTION A L ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) VAUBERT, B. BITTEL, R.
- BLACK, A. L.
- 06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. BAKER, N. P. BLACK, A. L. ANAND, R. S. FISK, R. A.
- BLAKE, C. A., JR.
- 06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. ARNOLD, W. D. BLAKE, C. A., JR. CROUSE, D. J.
- BLAVOUX, B.
- 06213 OXYGENE-18 ET TRITIUM DANS LE BASSIN DEVIAN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). PONTES, J. C. LETOLLE, R. OLIVE, P. BLAVOUX, B.
- 07032 PREMIERS RESULTATS SUR LA TENUE EN TRITIUM DES EAUX DU LAC LEMAN. (PRIMARY RESULTS OF THE TRITIUM CONTENT OF THE WATER OF LAKE LEMAN.) BLAVOUX, B. OLIVE, P.
- BLIXT, S.
- 07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS. BLIXT, S. EHRENBERG, L. GELIN, O.
- BLOMEKE, J. O.
- 06807 MANAGEMENT OF FISSION PRODUCT TRITIUM IN FUEL PROCESSING WASTES. BLOMEKE, J. O.
- BLOOM, S. G.
- 06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. MARTIN, W. E. RAINES, G. E. BLOOM, S. G. LEVIN, A. A.
- 07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. BLOOM, S. G. RAINES, G. E.
- BOEGLY, W. J., JR.
- 06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. COWSER, K. E. PARKER, F. L. TADMOR, J. BOEGLY, W. J., JR. JACOBS, G. H. LLEWELLYN, G. H. DYSLIN, D. A.
- BOGDAROV, K. M.
- 06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. BOGDAROV, K. M. SHALNOV, M. I. SHUTKUNBYERG, I. U. M.
- BOGGS, R. P.
- 07076 TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION. NELLIS, D. O. HUDSPETH, E. L. MORGAN, I. L. BUCHANAN, P. S. BOGGS, R. P.
- BOLIN, B.
- 05086 ON THE USE OF TRITIUM AS A TRACER FOR WATER IN NATURE. BOLIN, B.
- 06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. ERIKSSON, E. BOLIN, B.
- 06690 AN INVESTIGATION OF TRITIUM IN ATMOSPHERIC MOISTURE, RAINWATER AND THE SEA IN THE EUROPEAN AREA; ANNUAL PROGRESS REPORT FOR 1 JULY 1961 - 30 JUNE 1962. BOLIN, B.
- BOND, V. P.
- 06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. RUBINI, J. R. CRONKITE, E. P. BOND, V. P. FLIEDNER, T. M.
- 07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. BOND, V. P. FEINENDEGEN, L. E.
- 07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. CRONKITE, E. P. GREENHOUSE, S. W. BRECHER, G. BOND, V. P.

- 07101 EVALUATION OF POTENTIAL HAZARDS FROM TRITIUM WATER. BOND, V. P.
- BOND, W. D.
- 07086 PRODUCTION OF TRITIUM BY CONTAINED NUCLEAR EXPLOSIONS IN SALT; I. LABORATORY STUDIES OF ISOTOPIC EXCHANGE OF TRITIUM IN THE HYDROGEN-WATER SYSTEM. BOND, W. D.
- BOOTH, R. S.
- 06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. KELLY, M. J. BOOTH, R. S.
- BOSCH, B.
- 07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) BOSCH, B. SUEGAN, B. HUBERT, P. MARCE, A. OLIVE, P. SIWERTZ, E.
- BOTRE, M.
- 06863 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E COLI)). MAURO, P. GIOVANNINOZZI-SERNANNI, G. BOTRE, M.
- BOULENGER, R.
- 06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). GOURSKI, E. BOULENGER, R. KOCH, O.
- BOWEN, V. T.
- 06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. VOLCHOK, H. L. FEINER, M. SIMPSON, H. J. BROECKER, W. S. NOSHKIN, V. E. BOWEN, V. T. WILLIS, E.
- 07035 GENERAL SUMMARY OF PROGRESS (ON OCEANOGRAPHY). BOWEN, V. T.
- BOWMAN, C. R.
- 07140 A PRELIMINARY ASSESSMENT OF THE RADIOLOGICAL IMPLICATIONS OF COMMERCIAL UTILIZATION OF NATURAL GAS FROM A NUCLEARLY STIMULATED WELL. JACOBS, D. G. STRUXNESS, E. G. BOWMAN, C. R.
- BRADLEY, W. E.
- 06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. HUPP, P. A. BRADLEY, W. E. PETERIS, P. J.
- BRAMATI, L.
- 06942 PRODUCTION OF TRITIUM IN NUCLEAR REACTORS. BRAMATI, L.
- BRECHER, G.
- 07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. CRONKITE, E. P. GREENHOUSE, S. W. BRECHER, G. BOND, V. P.
- BREDENKAMP, D. B.
- 07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. BREDENKAMP, D. B. VOGEL, J. C.
- BROECKER, W. S.
- 06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. VOLCHOK, H. L. FEINER, M. SIMPSON, H. J. BROECKER, W. S. NOSHKIN, V. E. BOWEN, V. T. WILLIS, E.
- BROOKS, W. L.
- 07074 RADIOACTIVE FALLOUT IN AIR AND RAIN--RESULTS TO THE MIDDLE OF 1969. CAMBRAY, R. S. FISHER, E. M. R. BROOKS, W. L. PETERSON, D. H.
- BROWN, D. A.
- 06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. PHILLIPS, R. E. BROWN, D. A.
- BROWN, D. J.
- 06461 FISSION PRODUCT TRITIUM IN SEPARATIONS WASTES AND IN THE GROUND WATER. HANEY, W. A. BROWN, D. J. REISENAUER, A. E.
- 06602 MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION. BROWN, D. J.
- 06793 CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS, JANUARY - DECEMBER, 1964. BROWN, D. J.
- BROWN, P.
- 06642 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. BROWN, P. GOLDSMITH, P. GREEN, H. P. HOLT, A. PARHAM, A. G.
- BROWN, G. P.
- 06994 DATING DESERT GROUND WATER. THATCHER, L. RUBIN, M. BROWN, G. P.
- BROWN, R. M.
- 06338 HYDROLOGY OF TRITIUM IN THE OTTAWA VALLEY. BROWN, R. M.
- 06964 THE DETERMINATION OF TRITIUM IN NATURAL WATERS. BROWN, R. M. GRUNMITT, W. E.
- 07167 DISTRIBUTION OF HYDROGEN ISOTOPES IN CANADIAN WATERS. BROWN, R. M.
- BRUNNER, H.
- 06940 SURVEY OF AVAILABLE DATA OF TRITIUM. BRUNNER, H.
- BUCHANAN, P. S.
- 07076 TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION. NELLIS, D. O. HUDSPETH, E. L. MORGAN, I. L. BUCHANAN, P. S. BOGGS, R. P.
- BUCKLEY, B. C.
- 06428 REPORT OF THE BIOASSAY PROGRAMS; JULY 1968 THROUGH JUNE 1969. SARGENT, T. W. WRIGHT, S. R. BUCKLEY, B. C. LOW-BEER, A. DE G.
- BUGRYSHEV, P. F.
- 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. ZHURAVLEV, V. P. BUGRYSHEV, P. F. ISTOMINA, A. G.
- 07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. ZHURAVLEV, V. P. BUGRYSHEV, P. F. ISTOMINA, A. G.
- BURGY, R. H.
- 06261 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. LEWIS, D. C. BURGY, R. H.
- BURKI, H. J.
- 06803 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. BURKI, H. J. OKADA, S.
- BURTON, J. D.
- 04175 RADIOACTIVE NUCLIDES IN SEA WATER, MARINE SEDIMENTS AND MARINE ORGANISMS. BURTON, J. D.
- BUSH, W. R.
- 06484 REVIEW OF CHALK RIVER EXPERIENCE WITH TRITIATED HEAVY WATER. BUSH, W. R.
- 06599 TRITIUM HAZARDS; A GENERAL LECTURE FOR THOSE WHO WORK AROUND HEAVY WATER. BUSH, W. R.
- 07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. PENN, J. H. BUSH, W. R. WATSON, L. C.
- BUTLER, P. E.
- 06483 DETERMINATION OF TRITIUM IN WATER AND URINE. BUTLER, P. E.

- 06493 ASSESSMENT OF TRITIUM IN PRODUCTION WORKERS. BUTLER, F. E.
- BUTLER, G. C.
- 07079 EXPERIENCE WITH DILUTION RATE FACTORS FROM AECL REACTOR STACK. BUTLER, G. C. BARRY, P. J.
- BUTLER, H. L.
- 04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BUTLER, H. L. LEROY, J. H.
- 05053 OBSERVED EFFECTIVE HALF-LIFE OF TRITIUM AT THE SAVANNAH RIVER PLANT. BUTLER, H. L.
- CACCIARI, I.
- 06838 A METHOD OF STUDYING METABOLIC REACTIONS DURING BETA-IRRADIATION. GIOVANNOZZI-SERMANNI, G. CACCIARI, I.
- 06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE. GIOVANNOZZI-SERMANNI, G. NASIRONI, R. CACCIARI, I.
- CADLE, R. D.
- 06598 ROLE OF METHYLENE IN THE PRODUCTION OF ATMOSPHERIC TRITIATED METHANE. CADLE, R. D.
- CAHILL, D. P.
- 07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. CAHILL, D. P. YUILE, C. L.
- 07155 SOME EFFECTS ON MAMMALIAN DEVELOPMENT OF CONTINUOUS IRRADIATION IN UTERO WITH TRITIATED WATER. CAHILL, D. P.
- CALVIN, M.
- 06891 BIO-ORGANIC CHEMISTRY QUARTERLY REPORT; SEPTEMBER - NOVEMBER 1961. CALVIN, M.
- CAMBRAY, R. S.
- 07074 RADIOACTIVE FALLOUT IN AIR AND RAIN-RESULTS TO THE MIDDLE OF 1969. CAMBRAY, R. S. FISHER, E. M. R. BROOKS, W. L. PEIRSON, D. H.
- CAMERON J. P.
- 03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. THATCHER, L. L. PAYNE, B. R. CAMERON J. P.
- CAMERON, J. P.
- 06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PAYNE, B. R. THATCHER, L. L. CAMERON, J. P. FLORKOWSKI, T.
- CARLSTON, C. W.
- 06867 TRITIUM-HYDROLOGIC RESEARCH- SOME RESULTS OF THE U. S. GEOLOGICAL SURVEY RESEARCH PROGRAM. CARLSTON, C. W.
- CARNAHAN, C. L.
- 07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. SMITH, M. B. CARNAHAN, C. L.
- CARR, V.
- 06420 ON THE MECHANISM OF THE SELF-INDUCED EXCHANGE OF TRITIUM WITH HALOGENATED ALIPHATIC HYDROCARBONS. CARR, V. ACHE, H. J.
- CARSON, M.
- 06958 TRITIUM (A BIBLIOGRAPHY). CARSON, M.
- CARTER, M. W.
- 06458 LOW-LEVEL COUNTING BY LIQUID SCINTILLATION I. TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS. MOGHISSI, A. A. KELLEY, H. L. REGNIER, J. B. CARTER, M. W.
- 06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. MOGHISSI, A. A. TOEBBER, E. D. REGNIER, J. B. CARTER, M. W. POSBY, C. D.
- CERRE, P.
- 06949 L INTERVENTION ET LA DECONTAMINATION DU MATERIEL CONTAMINE AU TRITIUM (INTERVENTION AND DECONTAMINATION OF MATERIAL CONTAMINATED WITH TRITIUM). CERRE, P. MESTRE, E.
- CHAMBERLAIN, A. C.
- 07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN. CHAMBERLAIN, A. C. BOGLETON, A. E. J.
- CHANANA, A. D.
- 06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. GREENBERG, M. L. CHANANA, A. D. CRONKITE, E. P. SCHIPPER, L. M. STRYCKMANS, P. A.
- CHANDLEY, C.
- 07009 MUTATIONS INDUCED IN THE MOUSE WITH TRITIATED THYMIDINE. BATEMAN, A. J. CHANDLEY, C.
- CHARNELL, R. L.
- 06711 BIOENVIRONMENTAL AND RADIOLOGICAL- SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL; HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. CHARNELL, R. L. ZORICH, T. M. HOLLY, D. E.
- CHATTERS, R. M.
- 06489 RADIOCARBON AND TRITIUM DATING. CHATTERS, R. M. OLSON, E. A.
- CHERTOK, R.
- 06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN FLOWSHARE EVENTS. SHORE, B. ANSPAUGH, L. CHERTOK, R. GOPMAN, J. HARRISON, P. HEPT, R. KORANDA, J. NG, Y. PHELPS, P. POTTER, G. TAMPLIN, A.
- CHERTOK, R. J.
- 06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKIE, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.
- CHESNUTT, M. W.
- 04086 TRITIUM IN SURFACE WATERS, 1964-1965. CHESNUTT, M. W. DROBINSKI, J. C. JR. GORRIS, R. H.
- CHIPPERFIELD, B.
- 06694 TRITIUM UPTAKE, HALF-LIVES AND RADIATION DOSES IN TISSUES OF CANCER PATIENTS TREATED WITH TRITIATED 2-METHYL-1-4-NAPHTHAQUINOL DIPHOSPHATE. CHIPPERFIELD, B.
- CHISWELL, W. D.
- 06781 MEASUREMENT OF TRITIUM CONCENTRATION IN EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY BURDENS. CHISWELL, W. D. DANCER, G. H. C.
- CHOI, I. C. S.
- 06270 SPECIFIC ACTIVITY OF PHOTOSYNTHETIC SUGARS IN SOYBEAN LEAVES EQUILIBRATED WITH TRITIATED WATER. ARONOFF, S. CHOI, I. C. S.
- CHOI, I. .6.
- 07046 THE MOVEMENT OF TRITIATED WATER IN PLANTS. CHOI, I. .6.
- CHORNEY, W.
- 06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS. CHORNEY, W. SCULLY, N. J. DUTTON, H. J.
- CLAYTON, C. G.
- 04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. CLAYTON, C. G. SMITH, D. B.

CLEAVER, J. E.

07127 THYMIDINE METABOLISM AND H-3-THYMIDINE SUICIDE IN MAMMALIAN CELLS. CLEAVER, J. E.

CLEGG, B. R.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKE, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.

CLIFTON, R. J.

06978 RADIATION DOSES RESULTING FROM THE ADMINISTRATION OF TRITIATED FOLIC ACID AND TRITIATED WATER TO THE RAT. LAMBERT, B. E. CLIFTON, R. J.

CLINE, J. F.

06225 ABSORPTION AND METABOLISM OF TRITIUM OXIDE AND TRITIUM GAS BY BEAN PLANTS. CLINE, J. F.

06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT. REDISKE, J. H. CLINE, J. F.

COFFIN, D. O.

05051 SOME SECOND THOUGHTS ON TRITIUM CONTAMINATION. COFFIN, D. O.

COHEN, J. J.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKE, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.

07080 PURGING OF NUCLEAR CHIMNEYS. COHEN, J. J.

COLE, L. J.

06178 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION STUDIES. WACHTEL, L. W. PHILLIPS, T. L. COLE, L. J.

COOLBY, R. C., SR.

07001 CONTROLLING TRITIUM HAZARDS AROUND HEAVY WATER MODERATED REACTORS. COOLBY, R. C., SR.

COPPEN, A. J.

07165 SALIVA-SERUM RATIOS OF TRITIUM AFTER THE ADMINISTRATION OF TRITIATED WATER. COPPEN, A. J. GIBBONS, J. L.

COREY, J. C.

06370 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE. COREY, J. C.

06610 TRACING GROUNDWATER WITH CHLORIDE IONS AND TRITIUM THROUGH ACID KAOLINITIC SOIL. COREY, J. C. PENIMORE, J. W.

06611 MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND O-18 THROUGH ACIDIC KAOLINITIC SOIL. COREY, J. C. HORTON, J. H.

07176 CONTRIBUTION OF TRITIATED WATER AT VARIOUS DEPTHS IN SOIL TO EVAPORATION AT THE SOIL SURFACE. COREY, J. C.

CORY, R.

06290 AN ANALYSIS OF TRANSLOCATION IN THE PHLOEM OF THE BEAN PLANT USING THO, P-32, AND C-14. BIDDULPH, O. CORY, R.

COSTES, C.

06830 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). COSTES, C. FERRON, P. VAN ASSCHE, J. DEBROCHE, M.

COURTNEY, J. C.

07120 HAZARDS ANALYSIS; RADIOLOGICAL HAZARDS.

COURTNEY, J. C.

COWSER, K. E.

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES PHASE I. COWSER, K. E. KAYE, S. V. ROHWER, P. S. SNYDER, W. S. STRUXNESS, E. G.

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING WORLD NUCLEAR POWER ECONOMY. COWSER, K. E. TADMOR, J.

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. ROHWER, P. S. KAYE, S. V. COWSER, K. E. SNYDER, W. S. STRUXNESS, E. G.

06386 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. COWSER, K. E. PARKER, P. L. TADMOR, J. BOEGLY, W. J., JR. JACOBS, G. H. LLEWELLYN, G. H. DYSLIN, D. A.

CRAIG, R. G.

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. ASCHBACHER, P. W. KAMAL, T. H. CRAIG, R. G.

CRAIG, H.

06246 THE PRODUCTION RATE OF NATURAL TRITIUM. CRAIG, H. LAL, D.

06353 DISTRIBUTION, PRODUCTION RATE, AND POSSIBLE SOLAR ORIGIN OF NATURAL TRITIUM. CRAIG, H.

CRAWFORD, T. V.

07059 CALCULATING EXPOSURES AT LONG DISTANCES FROM NUCLEAR-CRATERING APPLICATIONS. CRAWFORD, T. V.

CRITES, T. R.

06289 ESTIMATING BODY BURDEN LEVELS OF RADIOACTIVE MATERIALS FROM URINARY EXCRETA DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. CRITES, T. R.

CRONKITE, E. P.

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. GREENBERG, M. L. CHANANA, A. D. CRONKITE, E. P. SCHIFFER, L. M. STRYCKMANS, P. A.

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. RUBINI, J. R. CRONKITE, E. P. BOND, V. P. FLIEDNER, T. M.

06993 THE EFFECT OF TRITIATED THYMIDINE ON MORTALITY AND TUMOR INCIDENCE IN MICE. JOHNSON, H. A. CRONKITE, E. P.

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. CRONKITE, E. P. GREENHOUSE, S. W. BRECHER, G. BOND, V. P.

CROUSE, D. J.

06882 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE)- PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1968. ARNOLD, W. D. BLAKE, C. A., JR. CROUSE, D. J.

06899 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE), PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1968. ARNOLD, W. D. CROUSE, D. J.

06901 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE), PROGRESS REPORT FOR JUNE 1 TO SEPTEMBER 30, 1969. ARNOLD, W. D. CROUSE, D. J.

07081 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1969. ARNOLD, W. D. CROUSE, D. J.

07084 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR JANUARY 1 TO MARCH 31, 1969. ARNOLD, W. D. CROUSE, D. J.

07085 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR OCTOBER 1 TO DECEMBER 31, 1968. ARNOLD, W. D. CROUSE, D. J.

- 07136 RADIOACTIVE CONTAMINATION OF OIL PRODUCED FROM NUCLEAR-BROKEN SHALE. ARNOLD, W. D. CROUSE, D. J.
- 07166 CHEMICAL APPLICATIONS OF NUCLEAR EXPLOSIONS (CANE); PROGRESS REPORT FOR JULY 1 TO SEPTEMBER 30, 1970. ARNOLD, W. D. CROUSE, D. J.
- CROXTON, F. E.
- 06934 TRITIUM (H-3); A BIBLIOGRAPHY OF UNCLASSIFIED LITERATURE. CROXTON, F. E. SCHWIND, S. B.
- DALY, J. C.
- 06464 TRITIATED MOISTURE IN THE ATMOSPHERE SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT. DALY, J. C. MANCHESTER, A. V. GABAY, J. J. SAX, N. I.
- 06613 DIFFUSION OF TRITIATED MOISTURE FROM A STREAM. DALY, J. C. GABAY, J. J.
- 07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. SAX, N. I. DALY, J. C. GABAY, J. J.
- DANCER, G. H. C.
- 06781 MEASUREMENT OF TRITIUM CONCENTRATION IN EXHALED WATER VAPOUR AS A MEANS OF ESTIMATING BODY BURDENS. CHISWELL, W. D. DANCER, G. H. C.
- DAVIS, G. H.
- 06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. DAVIS, G. H. PAYNE, B. R. DINCER, T. FLORKOWSKI, T. GATTINGER T.
- 07029 SOME CONSIDERATIONS ON TRITIUM DATING AND THE ESTIMATES OF TRITIUM INPUT FUNCTION. DINCER, T. DAVIS, G. H.
- DAVIS, S. N.
- 06626 TRANSPORT OF RADIONUCLIDES BY GROUND WATER-SOME THEORETICAL ASPECTS. LYNCH, B. J. DAVIS, S. N. POSTLE, G. L.
- DEGEER, M. W.
- 06760 MEASURING SUBSURFACE SPRING FLOW WITH RADIOTRACERS. GALEGAR, W. C. DEGEER, M. W.
- DEGOT, B.
- 07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) ALVIERIE, J. DEGOT, B. LEVEQUE, P. VIGNEAUX, M.
- DELIBRIAS, G.
- 06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF ATMOSPHERIC TRITIUM FROM THERMONUCLEAR EXPLOSIONS). BIBRON, R. DELIBRIAS, G. LABEYRIE, J.
- 07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM DANS LES EAUX DE PRECIPITATION EN FRANCE. (EVOLUTION OF THE TRITIUM CONCENTRATION IN PRECIPITATION IN FRANCE.) BIBRON, R. DELIBRIAS, G. LABEYRIE, J.
- DELONG, C. W.
- 06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND TRITIUM OXIDE. DELONG, C. W. THOMPSON, R. C. KORNBERG, H. A.
- 06764 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. DELONG, C. W. THOMPSON, R. C. KORNBERG, H. A.
- DENHAM, D. H.
- 06612 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY-DECEMBER, 1968. DENHAM, D. H.
- 06814 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JANUARY-JUNE, 1969. DENHAM, D. H.
- 06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. DENHAM, D. H. KATHREN, R. L.
- 07095 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT JULY- DECEMBER 1969. DENHAM, D. H.
- DEROCHE, M.
- 06630 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). COSTES, C. FERRON, P. VAN ASSCHE, J. DEROCHÉ, M.
- DEVELL, L.
- 06844 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. BERGSTROEM, S. O. W. DEVELL, L. GERBERT G.
- DEVIK, P.
- 06801 STUDIES ON THE INCORPORATION OF TRITIATED THYMIDINE IN DESOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS. GARDER, K. H. DEVIK, P.
- DEVIRTS, A. L.
- 06287 THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS. VINOGRADOV, A. P. DEVIRTS, A. L. DOBKINA, E. I.
- DEWEY, W. C.
- 06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. DEWEY, W. C. HUMPHREY, R. M. JONES, B. A.
- DIETRICH, E.
- 07030 RADIOLOGICAL PROTECTION PROBLEMS OF TRITIUM. DIETRICH, E. KOENIG, L. A.
- DINCER, T.
- 06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. DAVIS, G. H. PAYNE, B. R. DINCER, T. FLORKOWSKI, T. GATTINGER T.
- 07029 SOME CONSIDERATIONS ON TRITIUM DATING AND THE ESTIMATES OF TRITIUM INPUT FUNCTION. DINCER, T. DAVIS, G. H.
- 07168 VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. DINCER, T. MARTINEC, J. YEN, C. K. PAYNE, B. R.
- DINGLE, A. N.
- 06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO. 3. DINGLE, A. N. GATZ, D. F.
- DOBKINA, E. I.
- 06287 THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS. VINOGRADOV, A. P. DEVIRTS, A. L. DOBKINA, E. I.
- DOCKINS, K. O.
- 06228 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. DOCKINS, K. O. BAINBRIDGE, A. E. HOUTERMANS, J. C. SUESS, H. E.
- DODD, J. D.
- 06288 THE BIOGEOCHEMICAL CYCLE OF CS-134 IN TWO NATIVE STANDS OF ANDROPOGON SCOPARIUS NICHX, PROGRESS REPORT. DODD, J. D.
- DOLPHIN, G. W.
- 06816 THE ESTIMATION OF INTERNAL RADIATION DOSE FROM METABOLIC AND URINARY EXCRETION DATA FOR A NUMBER OF IMPORTANT RADIONUCLIDES. JACKSON, S. DOLPHIN, G. W.
- 06833 INTERPRETATION OF BIO-ASSAY DATA. DOLPHIN, G. W. JACKSON, S. LISTER, B. A.
- DOURY, A.
- 06941 RISQUES PRESENTES PAR LA DIFFUSION DE GRANDES QUANTITES DE TRITIUM DANS L'ATMOSPHERE (DANGERS PRESENTED BY THE DIFFUSION OF LARGE QUANTITIES OF TRITIUM IN THE ATMOSPHERE). DOURY, A.

DRESCHER, W.

06852 EINBAU VON H-3-D-GLUCOSE WAEREND DER OOGENSES BEI APIS MELLIFICA L (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENSES IN APIS MELLIFICA L). ENGELS, W. DRESCHER, W.

DREWRY, G. E.

06376 THE RAIN FOREST PROJECT ANNUAL REPORT. KLINE, J. R. JORDAN, C. P. DREWRY, G. E.

07069 THE RAIN FOREST PROJECT. ANNUAL REPORT FY-1967. KLINE, J. R. JORDAN, C. P. DREWRY, G. E.

DROBINSKI, J. C. JR.

04086 TRITIUM IN SURFACE WATERS, 1964-1965. CHESNUTT, M. W. DROBINSKI, J. C. JR. GORRIS, R. H.

DROBINSKI, J. C., JR.

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. DROBINSKI, J. C., JR. LA GATTA, D. P. GOLDIN, A. S. TERRILL, J. G., JR.

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. DROBINSKI, J. C., JR. MAGNO, P. J. GOLDIN, A. S.

DUCE, R. A.

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE NATURAL WATER OF SOUTHERN OAHU, HAWAII. HUPEN, T. H. DUCE, R. A. LAU, L. S.

DUNAWAY, P. B.

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS. REICHLER, D. E. DUNAWAY, P. B. NELSON, D. J.

DUNN, A.

07010 A COMPARISON OF H-3- AND C-14-GLUCOSE METABOLISM IN THE INTACT RAT. DUNN, A. STRAHS, S.

DUTTON, H. J.

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS. CHORNEY, W. SCULLY, N. J. DUTTON, H. J.

DYSLIN, D. A.

06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. COWSER, K. E. PARKER, P. L. TADMOR, J. BOEGLY, W. J., JR. JACOBS, G. H. LEWELLYN, G. H. DYSLIN, D. A.

EBSTEIN, B. S.

06802 TRITIATED ACTINOMYCIN D AS A CYTOCHEMICAL LABEL FOR SMALL AMOUNTS OF DNA. EBSTEIN, B. S.

EGGLETON, A. E. J.

07087 WASHOUT OF TRITIATED WATER VAPOUR BY RAIN. CHAMBERLAIN, A. C. EGGLETON, A. E. J.

EHHALT, D.

04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHAERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960). EHHALT, D. ROTHER, W. STICH, W.

07013 TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN. EHHALT, D. ISRAEL, G. ROTHER, W. STICH, W.

07016 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. GONSIOR, B. FRIEDMAN, I. EHHALT, D.

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. ZIMMERMANN, U. EHHALT, D. MUEHNICH, K. O.

EHHALT, D. H.

06614 A PEAK IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN FOLLOWING THE ACCIDENT AT WINDSCALE. EHHALT, D. H. BAINBRIDGE, A. E.

06693 TRITIUM AND DEUTERIUM IN ATMOSPHERIC

HYDROGEN. EHHALT, D. H.

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. SCHOLZ, T. G. EHHALT, D. H. HEIDT, L. E. MARTELL, E. A.

EHRENBERG, L.

07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS. BLIXT, S. EHRENBERG, L. GELIN, O.

EIDINOFF, M. L.

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. EIDINOFF, M. L. FERRI, G. C. KNOLL, J. E. MARANO, B. J. ARNHEIM, J.

EISENBUD, M.

06389 RADIOACTIVITY IN THE ENVIRONMENT- SOURCES OF RADIOACTIVITY IN THE ENVIRONMENT. EISENBUD, M.

EISNER, H.

06269 TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. AMBACH, W. EISNER, H. SAUZAY, G.

ELIASON, J. R.

06608 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS, JULY-DECEMBER 1966. ELIASON, J. R.

06881 EARTH SCIENCES WASTE DISPOSAL INVESTIGATIONS; JANUARY - JUNE, 1967. ELIASON, J. R.

ELLIS, R. E.

03209 AN APPRAISAL OF THE CURRENT FALL-OUT LEVELS AND THEIR BIOLOGICAL SIGNIFICANCE. ELLIS, R. E.

EMERSON, R. J.

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. SMITH, G. N. EMERSON, R. J. TEMPLE, L. A. GALBRAITH, T. W.

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. SMITH, G. N. TEMPLE, L. A. EMERSON, R. J. GALBRAITH, T. W.

ENGELKE, M. J.

06900 A STUDY OF THE DIFFUSION AND MIXING OF TRITIUM GAS IN AIR. ENGELKE, M. J. BENIS, E. A., JR.

ENGELS, W.

06852 EINBAU VON H-3-D-GLUCOSE WAEREND DER OOGENSES BEI APIS MELLIFICA L (INCORPORATION OF H-3-D-GLUCOSE DURING OOGENSES IN APIS MELLIFICA L). ENGELS, W. DRESCHER, W.

ERIKSSON, E.

06231 THE ATMOSPHERIC TRANSPORT OF TRITIUM. ERIKSSON, E.

06235 LARGE-SCALE UTILIZATION OF TRITIUM IN HYDROLOGIC STUDIES. ERIKSSON, E.

06238 OXYGEN-18, DEUTERIUM, AND TRITIUM IN NATURAL WATERS AND THEIR RELATIONS TO THE GLOBAL CIRCULATION OF WATER. ERIKSSON, E. BOLIN, B.

06247 AN ACCOUNT OF THE MAJOR PULSES OF TRITIUM AND THEIR EFFECTS IN THE ATMOSPHERE. ERIKSSON, E.

07014 ATMOSPHERIC TRITIUM AS A TOOL FOR THE STUDY OF CERTAIN HYDROLOGIC ASPECTS OF RIVER BASINS. ERIKSSON, E.

ESSIG, T. H.

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965, APPENDICES. MOORE, D. ESSIG, T. H.

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. SOLDAT, J. K. ESSIG, T. H.

- 06892 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT, JULY - DECEMBER, 1967. ESSIG, T. H.
- 07089 RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT; JANUARY-JUNE, 1968. ESSIG, T. H.
- ESSIG, T. H. (ED.)
- 07147 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. ESSIG, T. H. (ED.)
- 07148 RADIATION AND ISOTOPE TECHNOLOGY IN LATIN AMERICAN DEVELOPMENT; PROCEEDINGS OF THE AMERICAN NUCLEAR SOCIETY TOPICAL MEETING, HELD IN SAN JUAN, PUERTO RICO, 4-6 MAY 1969. MU
- EVANS, A. G.
- 06222 NEW DOSE ESTIMATES FROM CHRONIC TRITIUM EXPOSURES. EVANS, A. G.
- EVANS, B. A.
- 06486 TRITIUM AND ITS COMPOUNDS. EVANS, B. A.
- EVIN, J.
- 07171 CONTRIBUTION DES MESURES ISOTOPIQUES A L'ETUDE DE LA FONTAINE DE VAUCLUSE. (CONTRIBUTION OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE FONTAINE DE VAUCLUSE.) MARGRITA, R. EVIN, J. FLANDRIN, J. PALOC, H.
- FAIRMAN, W.
- 06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY. SEDLET, J. ROBINSON, J. FAIRMAN, W.
- FALLOT, P.
- 06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN CLINICAL PRACTICE). FALLOT, P. AEBERHARDT, A. MASSON, J.
- FARNSWORTH, R. K.
- 06206 UNITED STATES TRITIUM RAINOUT AND ITS HYDROLOGIC IMPLICATIONS. STEWART, G. L. FARNSWORTH, R. K.
- 06985 TRITIUM IN STREAMS IN THE UNITED STATES, 1961-1968. WYERMAN, T. A. FARNSWORTH, R. K. STEWART, G. L.
- PARZINE, K.
- 06823 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. VON BUTTLAR, H. PARZINE, K. WOHLFAHRT, H.-D.
- PEINENDEGEN, L. E.
- 06490 TRITIUM-LABELLED MOLECULES IN BIOLOGY AND MEDICINE. PEINENDEGEN, L. E.
- 07008 INTRANUCLEAR H-3 THYMIDINE; DOSIMETRIC, RADIOBIOLOGICAL AND RADIATION PROTECTION ASPECTS. BOND, V. P. PEINENDEGEN, L. E.
- 07124 PROBLEMS ASSOCIATED WITH THE USE OF LABELLED MOLECULES IN BIOLOGY AND MEDICINE. GENERAL REVIEW. PEINENDEGEN, L. E.
- PEINER, M.
- 06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. VOLCHOK, H. L. PEINER, M. SIMPSON, H. J. BROECKER, W. S. NOSHKIN, V. E. BOWEN, V. T. WILLIS, B.
- PENIMORE, J. W.
- 06610 TRACING GROUNDWATER WITH CHLORIDE IONS AND TRITIUM THROUGH ACID KAOLINITIC SOIL. COREY, J. C. PENIMORE, J. W.
- 06615 TRACING SOIL MOISTURE AND GROUNDWATER FLOW AT THE SAVANNAH RIVER PLANT. PENIMORE, J. W.
- PENN, J. H.
- 07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. PENN, J. H. BUSH, W. R.
- WATSON, L. C.
- PENSKE, P. R.
- 06821 RADIOACTIVITY IN WATER - PROJECT RULISON. NORK, W. E. PENSKE, P. R.
- 07143 PREDICTION OF RADIONUCLIDE MIGRATION IN GROUND WATER. PENSKE, P. R.
- PERRON, P.
- 06830 RECHERCHES SUR LES TRANSFORMATIONS DE LEAU DANS LES FEUILLES AVEC LEAU TRITIEE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). COSTES, C. PERRON, P. VAN ASSCHE, J. DEROCHE, M.
- PETERIS, P. J.
- 06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. HUPP, P. A. BRADLEY, W. E. PETERIS, P. J.
- PINEMAN, P.
- 06813 WASTE DISPOSAL. PINEMAN, P.
- PINKEL, E. E.
- 06385 STUDYING THE DIFFUSION OF AQUEOUS VAPOURS IN SYNTHETIC MATERIALS BY MEANS OF TRITIUM. PINKEL, E. E.
- FIREMAN, E. L.
- 07020 AN ADDITIONAL MEASUREMENT OF THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN OF 1949. FIREMAN, E. L. ROWLAND, P. S.
- FIRESTONE, R. P.
- 06283 THE RADIATION CHEMISTRY OF WATER VAPOR, THE INDIRECT EFFECT ON DEUTERIUM AND THE EXCHANGE OF D-ATOMS WITH WATER MOLECULES. FIRESTONE, R. P.
- FISHER, E. M. R.
- 07074 RADIOACTIVE FALLOUT IN AIR AND RAIN--RESULTS TO THE MIDDLE OF 1969. CAMBRAY, R. S. FISHER, E. M. R. BROOKS, W. L. PEIRSON, D. H.
- FISH, B. R.
- 06825 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. SNYDER, W. S. FISH, B. R. BERNARD, S. R. FORD, M. R. WUIR, J. R.
- FISK, R. A.
- 06275 BODY WATER TURNOVER IN CATTLE WITH PARASITIC GASTROENTERITIS. BAKER, N. P. BLACK, A. L. ANAND, R. S. FISK, R. A.
- FLAMM, E.
- 06840 TRITIUM AND HELIUM-3 IN SOLAR FLARES AND LOSS OF HELIUM FROM THE EARTH'S ATMOSPHERE. FLAMM, E. LINGENFELTER, R. E. MACDONALD, G. J. P. LIBBY, W. P.
- FLAMM, E. J.
- 06895 NATURAL TRITIUM. NIR, A. KRUGER, S. T. LINGENFELTER, R. E. FLAMM, E. J.
- FLANDRIN, J.
- 07171 CONTRIBUTION DES MESURES ISOTOPIQUES A L'ETUDE DE LA FONTAINE DE VAUCLUSE. (CONTRIBUTION OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE FONTAINE DE VAUCLUSE.) MARGRITA, R. EVIN, J. FLANDRIN, J. PALOC, H.
- FLEMING, E. H.
- 06294 MASS EXTRACTION RATES OF RADIONUCLIDES IN FALLOUT MATERIAL FROM A 170-KT NUCLEAR CRATER. FLEMING, E. H.
- FLIEDNER, T. M.
- 06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. RUBINI, J. R. CRONKITE, E. P. BOND, V. P. FLIEDNER, T. M.
- 07157 COMPLETE LABELING OF ALL CELL NUCLEI IN NEWBORN RATS WITH H-3-THYMIDINE. FLIEDNER, T. M. HAAS, R. J. STEHLE, H. ADAMS, A.

FLORKOWSKI, T.

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. DAVIS, G. H. PAYNE, B. R. DINCER, T. FLORKOWSKI, T. GATTINGER T.

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY, FINAL REPORT. PAYNE, B. R. THATCHER, L. L. CAMERON, J. P. FLORKOWSKI, T.

FLORKOWSKI, T.

07034 INTERLABORATORY COMPARISON OF ANALYSIS OF TRITIUM IN NATURAL WATERS. FLORKOWSKI, T. PAYNE, B. R. SAUZAY, G.

FOLKERS, C. L.

07144 REPAIRING A LARGE TRITIUM-CONTAMINATED SYSTEM. FOLKERS, C. L. JOHNSON, K. A.

PONTES, J. C.

06213 OXYGENE-18 ET TRITIUM DANS LE BASSIN DEVIAN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). PONTES, J. C. LETOLLE, R. OLIVE, P. BLAVOUX, B.

FORD, M. R.

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. SNYDER, W. S. FISH, B. R. BERNARD, S. R. FORD, M. R. MUIR, J. R.

FORSBERG, H. G.

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. KNUTSSON, G. LJUNGGREN, K. FORSBERG, H. G.

POSKETT, A. C.

06980 TRITIUM DETECTION AND MEASUREMENT; A BIBLIOGRAPHY. POSKETT, A. C.

POSTER, D. W.

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. POSTER, D. W. KATZ, J.

POSTER, R. P.

06379 TRITIUM OXIDE ABSORPTION AND RETENTION IN THE BODY WATER OF SOME AQUATIC ORGANISMS. POSTER, R. P.

POY, J. M.

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN. POY, J. M. SCHNIEDEN, H.

06203 THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE MOUSE, RAT, GUINEA-PIG AND RABBIT UNDER TROPICAL CONDITIONS AND THE EFFECT OF CLIMATE AND SALINE DRINKING ON THE BIOLOGICAL HALF-LIFE OF TRITIATED WATER IN THE RAT. POY, J. M.

FREDERICK, B. J.

06785 LABELING LAKE WATER WITH TRITIUM. FREDERICK, B. J.

PREJAVILLE, G.

06815 LE TRITIUM ATMOSPHERIQUE; MESURE ET APPLICATIONS (ATMOSPHERIC TRITIUM; MEASUREMENT AND APPLICATION). PREJAVILLE, G.

FRIEDMAN, I.

06241 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN. BEGEMANN, F. FRIEDMAN, I.

06259 TRITIUM AND DEUTERIUM IN AN ATMOSPHERIC METHANE. BEGEMANN, F. FRIEDMAN, I.

06844 ISOTOPIC COMPOSITION OF ATMOSPHERIC HYDROGEN AND METHANE. BAINBRIDGE, A. E. SUESS, H. E. FRIEDMAN, I.

07017 NEW TRITIUM AND DEUTERIUM MEASUREMENTS IN

ATMOSPHERIC HYDROGEN. GONSIOR, B. FRIEDMAN, I. LINDENMAYR, G.

07018 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. GONSIOR, B. FRIEDMAN, I. EHHAULT, D.

FRY, R. M.

06329 A NOTE ON THE MAXIMUM PERMISSIBLE LEVELS OF TRITIUM. FRY, R. M.

FUJIHARA, M. P.

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. GETZENDANER, M. E. FUJIHARA, M. P. KORNBERG, H. A.

06391 THE DESTRUCTION OF RIBOFLAVIN, BIOTIN AND POLIC ACID IN VERY DILUTE AQUEOUS SOLUTION BY TRITIUM BETA RADIATION. GETZENDANER, M. E. FUJIHARA, M. P.

PUNK, P.

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. PUNK, P. PERSON, S.

PURCHNER, J. E.

06192 ESTIMATION OF MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOISOTOPES IN WATER (MPC)W FROM INTERSPECIES CORRELATIONS I. COMPARISON OF ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND TRITIUM. RICHMOND, C. R. PURCHNER, J. E. LANGHAM, W. H.

GABAY, J. J.

06613 DIFFUSION OF TRITIATED MOISTURE FROM A STREAM. DALY, J. C. GABAY, J. J.

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. GABAY, J. J. SAX, N. I.

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. SAX, N. I. DALY, J. C. GABAY, J. J.

07177 A SURVEILLANCE TECHNIQUE FOR TRITIATED MOISTURE IN THE ATMOSPHERE. SAX, N. I. GABAY, J. J.

GALBRAITH, T. W.

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. SMITH, G. N. EMERSON, R. J. TEMPLE, L. A. GALBRAITH, T. W.

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. SMITH, G. N. TEMPLE, L. A. EMERSON, R. J. GALBRAITH, T. W.

GALEGAR, W. C.

06780 MEASURING SUBSURFACE SPRING FLOW WITH RADIOTRACERS. GALEGAR, W. C. DEGER, M. W.

GARDER, K. H.

06801 STUDIES ON THE INCORPORATION OF TRITIATED THYMIDINE IN DESOXYRIBONUCLEIC ACID IN MOUSE TISSUES AND ON ITS RADIATION EFFECTS. GARDER, K. H. DEVIK, P.

GARD, L. M.

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA ISLAND, ALASKA. GARD, L. M. HALE, W. E.

GATTINGER T.

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. DAVIS, G. H. PAYNE, B. R. DINCER, T. FLORKOWSKI, T. GATTINGER T.

GATZ, D. F.

06929 RAIN SCAVENGING STUDIES, PROGRESS REPORT NO. 3. DINGLE, A. N. GATZ, D. F.

GEBERT G.

06944 STUDIES ON TRITIUM HAZARDS AT SWEDISH REACTORS. BERGSTROM, S. O. W. DEVELL, L. GEBERT G.

GELIN, O.

07145 STUDIES OF INDUCED MUTATIONS IN PEAS. VII. MUTATION SPECTRUM AND MUTATION RATE OF DIFFERENT MUTAGENIC AGENTS. BLIXT, S. EHRENBERG, L. GELIN, O.

GERRARD, M.

07019 RADIOISOTOPE PRODUCTION BY NUCLEAR EXPLOSION. GERRARD, M.

GETZENDANER, M. E.

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL METHODS. GETZENDANER, M. E. FUJIHARA, M. P. KORNBERG, H. A.

06391 THE DESTRUCTION OF RIBOFLAVIN, BIOTIN AND FOLIC ACID IN VERY DILUTE AQUEOUS SOLUTION BY TRITIUM BETA RADIATION. GETZENDANER, M. E. FUJIHARA, M. P.

GEY, A.

05105 TRITIUM ET EAU TRITIEE- DUREES LIMITEES D'EXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE (TRITIUM AND TRITIATED WATER- TIME LIMITS OF ACCIDENTAL EXPOSURE IN STABLE OR REGENERATED ATMOSPHERES). GEY, A.

06953 TRITIUM ET VAPEUR D'EAU TRITIEE- DUREES LIMITEES D'EXPOSITION ACCIDENTELLE EN ATMOSPHERE STABLE OU RENOUVELEE (TRITIUM AND TRITIATED WATER VAPOR- TIME LIMITS FOR ACCIDENTAL EXPOSURE IN STABLE OR RENEWED ATMOSPHERE). GEY, A.

GIBBONS, J. L.

07185 SALIVA-SERUM RATIOS OF TRITIUM AFTER THE ADMINISTRATION OF TRITIATED WATER. COPPEN, A. J. GIBBONS, J. L.

GILETTI, B. J.

06252 THE GEOCHEMISTRY OF TRITIUM. GILETTI, B. J. BAZAN, P. KULP, J. L.

06788 TRITIUM TRACER IN ARCTIC PROBLEMS. GILETTI, B. J. KULP, J. L.

GILMARTIN, J. T.

07058 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. HULL, A. P. GILMARTIN, J. T.

GIOVANNOZZI-SERMANNI, G.

06838 A METHOD OF STUDYING METABOLIC REACTIONS DURING BETA-IRRADIATION. GIOVANNOZZI-SERMANNI, G. CACCIARI, I.

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON RHODOSPIRILLA RUBRA AS INFLUENCED BY CYSTAMINE. GIOVANNOZZI-SERMANNI, G. MASIRONI, R. CACCIARI, I.

06863 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E. COLI)). MAURO, P. GIOVANNOZZI-SERMANNI, G. BOTRE, M.

GLOYNA, E. P.

06367 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. SHULL, R. D. GLOYNA, E. P.

GOPMAN, J.

06372 THE PATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN PLOWSHARE EVENTS. SHORE, B. ANSPAUGH, L. CHERTOK, R. GOPMAN, J. HARRISON, P. HEPT, R. KORANDA, J. NG, Y. PHELPS, P. POTTER, G. TAMPLIN, A.

GOLDIN, A. S.

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR CARBON-14 AND TRITIUM. DROBINSKI, J. C., JR. LA GATTA, D. P. GOLDIN, A. S. TERRILL, J. G., JR.

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND THE BIOSPHERE. DROBINSKI, J. C., JR. MAGNO, P. J. GOLDIN, A. S.

GOLDSMITH, P.

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. BROWN, P. GOLDSMITH, P. GREEN, H. P. HOLT, A. PARHAM, A. G.

GONSIOR, B.

07017 NEW TRITIUM AND DEUTERIUM MEASUREMENTS IN ATMOSPHERIC HYDROGEN. GONSIOR, B. FRIEDMAN, I. LINDENMAYR, G.

07018 MEASUREMENTS OF TRITIUM AND DEUTERIUM CONCENTRATION IN ATMOSPHERIC HYDROGEN. GONSIOR, B. FRIEDMAN, I. EHHAULT, D.

07028 TRITIUM-ANSTIEG IM ATMOSPHERISCHEN WASSERSTOFF. (TRITIUM INCREASE IN ATMOSPHERIC HYDROGEN.) GONSIOR, B.

GOODE, J. H.

07098 ORNL EXPERIMENTS ON THE BEHAVIOR OF TRITIUM DURING HEAD-END PROCESSING OF IRRADIATED REACTOR FUELS. GOODE, J. H. VAUGHEN, V. C. A.

GORRIE, R. H.

04086 TRITIUM IN SURFACE WATERS, 1964-1965. CHESNUTT, M. W. DROBINSKI, J. C. JR. GORRIE, R. H.

GOURSKI, B.

06950 DETECTION DES CONTAMINATIONS DE SURFACE (DETECTION OF SURFACE CONTAMINATIONS). GOURSKI, B. BOULENGER, R. KOCH, G.

GRABSKIE, R. J.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKIE, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.

GRANT-TAYLOR, T. L.

06212 TRITIUM HYDROLOGY IN NEW ZEALAND. GRANT-TAYLOR, T. L. TAYLOR, C. B.

GRAY, J., JR.

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM. HAGEMANN, P. GRAY, J., JR. MACHTA, L. TURKEVICH, A.

GREENBERG, M. L.

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA. GREENBERG, M. L. CHANANA, A. D. CRONKITE, E. P. SCHIFFER, L. M. STRYCKMANS, P. A.

GREENHOUSE, S. W.

07011 IMPLICATION OF CHROMOSOME STRUCTURE AND REPLICATION ON HAZARD OF TRITIATED THYMIDINE AND THE INTERPRETATION OF DATA ON CELL PROLIFERATION. CRONKITE, E. P. GREENHOUSE, S. W. BRECHER, G. BOND, V. P.

GREENWAY, G. G.

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. HATCH, P. T. MAZIMAS, J. A. GREENWAY, G. G. KORANDA, J. J. MOORE, J. L.

GREEN, H. P.

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. BROWN, P. GOLDSMITH, P. GREEN, H. P. HOLT, A. PARHAM, A. G.

GREEN, J. P.

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM METHOD OF MEASURING TOTAL BODY WATER. LOGSDON, D. P., JR. GREEN, J. P. HARPER, J. W.

GREULICH, R. C.

07152 DELETERIOUS INFLUENCE OF ORALLY ADMINISTERED TRITIATED THYMIDINE ON REPRODUCTIVE CAPACITY OF MICE. GREULICH, R. C.

GROSSE, A. V.

06402 TRITIUM IN NATURE. GROSSE, A. V.
JOHNSTON, W. M. WOLFGANG, R. L. LIBBY, W. P.

GROVE, G. R.

06263 BIOLOGICAL HALF-LIFE OF TRITIUM.
WYLIE, K. F. BIGLER, W. A. GROVE, G. R.

GRUMMITT, W. E.

06984 THE DETERMINATION OF TRITIUM IN NATURAL
WATERS. BROWN, R. M. GRUMMITT, W. E.

GUEGAN, B.

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU
TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952.
(ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER
MIDDLE LATITUDES SINCE 1952.) BOSCH, B.
GUEGAN, B. HUBERT, P. MARCE, A. OLIVE, P.
SIWERTZ, E.

GUIZERIX, J.

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES
EFFECTUES AU CENTRE D'ETUDES NUCLEAIRES DE
GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS
AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE
NUCLEAR RESEARCH CENTRE). GUIZERIX, J.
MARGRITA, R. LAUNAY, M. RUBY, P.

GUIZOUARN, L.

06932 PROPRIETES PHYSIQUES MOLECULAIRES DES
ISOTOPES DE L'HYDROGENE ET DE LEURS COMBINAISONS
ISOTOPIQUES; ETUDE BIBLIOGRAPHIQUE (MOLECULAR AND
PHYSICAL PROPERTIES OF THE HYDROGEN ISOTOPES AND
OF THEIR ISOTOPIC COMBINATIONS; BIBLIOGRAPHICAL
COMPILATION). GUIZOUARN, L.

GULLIKSEN, S.

06977 TRITIUM CONTENT OF RAIN IN TRONDHEIM.
GULLIKSEN, S.

GUPTA, G. N.

06401 SIMPLIFIED SOLID-STATE SCINTILLATION
COUNTING ON GLASS MICROFIBER MEDIUM IN PLASTIC BAG
FOR HYDROGEN-3, CARBON-14, AND CHLORINE-36 IN
BIOLOGICAL AND ORGANIC MATERIALS. GUPTA, G. N.

07141 A NEW PROCEDURE OF LIQUID-SCINTILLATION
COUNTING IN PLASTIC BAGS FOR H-3, C-14 AND P-32 IN
BIOLOGICAL MATERIALS. GUPTA, G. N.

GUSTAPSON, P. P.

07187 FUTURE LEVELS OF TRITIUM IN THE GREAT LAKES
FROM NUCLEAR POWER PRODUCTION. GUSTAPSON, P. P.

HAAS, R. J.

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN
NEWBORN RATS WITH H-3-THYMIDINE. FLIEDNER, T. M.
HAAS, R. J. STEHLER, H. ADAMS, A.

HAGEMANN, P.

06323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE,
AND TRITIUM. HAGEMANN, P. GRAY, J., JR.
MACHTA, L. TURKEVICH, A.

HAILU, T.

06902 TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN
WATER- INSTRUMENTATION. LAU, L. S. HAILU, T.

HAINES, A.

06204 TRITIUM CONTENT OF ATMOSPHERIC METHANE AND
ETHANE. HAINES, A. MUSGRAVE, B. C.

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE
AND SOURCES OF TRITIATED METHANE. HAINES, A.
MUSGRAVE, B.

HAINES, A. B.

06637 ISOTOPIC STUDIES OF ATMOSPHERIC METHANE,
ETHANE, AND KRYPTON. HAINES, A. B.

HALE, W. E.

06336 HYDROLOGY OF THE LONG SHOT SITE, AMCHITKA
ISLAND, ALASKA - AN ADDENDUM. HALE, W. E.

06348 GEOLOGY AND HYDROLOGY OF THE LONG SHOT

SITE, AMCHITKA ISLAND, ALASKA. GARD, L. M.
HALE, W. E.

HALL, E. J.

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF
TRITIUM BETA PARTICLES COMPARED TO GAMMA
RADIATION--ITS DEPENDENCE ON DOSE-RATE.
HALL, E. J. OLIVER, R. BEDFORD, J. S.

HAMADA, T.

06873 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER,
GROUND WATER AND HOT SPRING. TAKAHASHI, T.
HAMADA, T. YAMASAKI, P.

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND
GROUND WATER. TAKAHASHI, T. NISHIDA, M.
OHNO, S. HAMADA, T.

HANDLOSER, J. S.

05104 TRITIUM HEALTH PHYSICS CONSIDERATIONS.
HANDLOSER, J. S.

HANEY, W. A.

06461 FISSION PRODUCT TRITIUM IN SEPARATIONS
WASTES AND IN THE GROUND WATER. HANEY, W. A.
BROWN, D. J. REISENAUER, A. E.

06794 FISSION PRODUCT TRITIUM IN FUEL
REPROCESSING WASTES. HANEY, W. A.

07181 FISSION-PRODUCT TRITIUM IN FUEL-PROCESSING
WASTE. HANEY, W. A.

HANSEN, R. O.

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL
COMPOSITION. HANSEN, R. O. VIDAL, R. D.
STOUT, P. R.

HANSEN, S. M.

06935 RESULTS FROM SEDAN POSTSHOT DRILLING.
HANSEN, S. M.

HARDING, C. V.

06812 TRITIUM RETENTION BY CORNEAL ENDOTHELIUM
AFTER INCORPORATION OF H-3-THYMIDINE. BITO, L. Z.
HARDING, C. V.

HARPER, J. W.

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM
METHOD OF MEASURING TOTAL BODY WATER.
LOGSDON, D. F., JR. GREEN, J. P. HARPER, J. W.

HARRISON, P.

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES
PRODUCED IN PLOWSHARE EVENTS. SHORE, B.
ANSIPAUGH, L. CHERTOK, R. GOPMAN, J.
HARRISON, P. HEPT, R. KORANDA, J. NG, Y.
PHELPS, P. POTTER, G. TAMPLIN, A.

HARRISON, P. L.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR
PROJECT SCHOONER. ANSPAUGH, L. R.
CHERTOK, R. J. CLEGG, B. R. COHEN, J. J.
GRABSKE, R. J. HARRISON, P. L. HEPT, R. E.
HOLLADAY, G. KORANDA, J. J. NG, Y. C.
PHELPS, P. L. POTTER, G. B.

06990 SOME EFFECTS OF NUCLEAR DETONATIONS ON
AQUATIC ECOSYSTEMS. HARRISON, P. L.

HARRIS, P. M.

06957 THE CHEMICAL AND BIOLOGICAL ASPECTS OF
TRITIUM; A BIBLIOGRAPHY OF REPORT AND PUBLISHED
LITERATURE REFERENCES FROM 1950 TO DATE.
HARRIS, P. M.

HARWARD, E. D.

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR
POWERPLANTS. WEAVER, C. L. HARWARD, E. D.
PETERSON, H. T., JR.

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM
INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES.
PETERSON, H. T., JR. MARTIN, J. E.
WEAVER, C. L. HARWARD, E. D. 07130 TRITIUM
UPTAKE FOLLOWING A THERMONUCLEAR TEST.
MASON, B. J. WIPPER, W. J.

HASKELL, E. E., JR.

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA. HASKELL, E. E., JR. LEVENTHAL, J. S. BIANCHI, W. C.

HATCH, P. T.

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. HATCH, P. T. MAZIMAS, J. A. GREENWAY, G. G. KORANDA, J. J. MOORE, J. L.

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. HATCH, P. T. MAZIMAS, J. A. KORANDA, J. J. MARTIN, J. R.

HAWKINS, D. B.

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION. HAWKINS, D. B. SCHMALZ, B. L.

HEPT, R.

06372 THE PATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN PLOWSHARE EVENTS. SHORE, B. ANSPAUGH, L. CHERTOK, R. GOPMAN, J. HARRISON, P. HEPT, R. KORANDA, J. NG, Y. PHELPS, P. POTTER, G. TAMPLIN, A.

HEPT, R. E.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKA, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.

HEIDT, L. E.

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE. SCHOLZ, T. G. BHHAULT, D. H. HEIDT, L. E. MARTELL, E. A.

HILL, J. H.

07139 INTERPRETING THE CHEMICAL RESULTS OF THE GASBUGGY EXPERIMENT. TAYLOR, R. W. LEE, E. L. HILL, J. H.

HODGES, T. K.

06866 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. HODGES, T. K. VAADIA, Y.

HOFFMAN, C. M.

06854 TRITIUM FALLOUT OVER NORTH AMERICA FROM THE SOVIET TESTS IN 1961. THATCHER, L. L. HOFFMAN, C. M.

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN 1962 AND 1963. STEWART, G. L. HOFFMAN, C. M.

HOLLADAY, G.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKA, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.

HOLLIS, O. L.

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. THOMPSON, R. C. HOLLIS, O. L.

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. SMITH, G. M. HOLLIS, O. L. THOMPSON, R. C.

HOLLY, D. E.

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL; HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. CHARNELL, R. L. ZORICH, T. M. HOLLY, D. E.

HOLMQUIST, C. E.

06943 HAZARDS OF TRITIUM OXIDES INDUCED IN HEAVY WATER REACTORS. HOLMQUIST, C. E.

HOLT, A.

06642 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. BROWN, F. GOLDSMITH, P. GREEN, H. F. HOLT, A. PARHAM, A. G.

HOLZER, A.

07138 GASBUGGY IN PERSPECTIVE. HOLZER, A.

HORTON, J. H.

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. HORTON, J. H. ROSS, D. I.

06611 MOVEMENT OF WATER TAGGED WITH H-2, H-3, AND O-18 THROUGH ACIDIC KAOLINITIC SOIL. COREY, J. C. HORTON, J. H.

HOUTERMANS, J. C.

06228 TRITIUM IN THE MIXED LAYER OF THE NORTH PACIFIC OCEAN. DOCKINS, K. O. BAINBRIDGE, A. E. HOUTERMANS, J. C. SUESS, H. E.

HUBERT, P.

06997 ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA). HUBERT, P. MEYBECK, M. OLIVE, P.

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. HUBERT, P. MARCE, A. OLIVE, P. SIWERTZ, E.

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) BOSCH, B. GURGAN, B. HUBERT, P. MARCE, A. OLIVE, P. SIWERTZ, E.

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) MEYBECK, M. HUBERT, P. MARTIN, J. M. OLIVE, P.

HUDSPETH, E. L.

07076 TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION. NELLIS, D. O. HUDSPETH, E. L. MORGAN, I. L. BUCHANAN, P. S. BOGGS, R. P.

HUEBNER, L.

06897 ATMOSPHERIC TRITIUM ANALYSIS; TECHNICAL PROGRESS REPORT NO 3. BARRETT, E. W. HUEBNER, L.

HUPEN, T. H.

07062 SOME MEASUREMENTS OF TRITIUM CONTENT IN THE NATURAL WATER OF SOUTHERN OAHU, HAWAII. HUPEN, T. H. DUCE, R. A. LAU, L. S.

HUPP, P. A.

06619 STUDY OF RAINOUT OF RADIOACTIVITY IN ILLINOIS, 6TH PROGRESS REPORT. HUPP, P. A. BRADLEY, W. E. PETERIS, P. J.

HULL, A. P.

07058 1966 ENVIRONMENTAL MONITORING RADIATION LEVELS AT BROOKHAVEN NATIONAL LABORATORY. HULL, A. P. GILMARTIN, J. T.

HUMPHREY, R. M.

06462 COMPARISONS OF TRITIATED THYMIDINE, TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN INDUCING CHROMOSOMAL ABERRATIONS. DEWEY, W. C. HUMPHREY, R. M. JONES, B. A.

HUTCHIN, M. E.

06605 SKIN CONTACT TRANSFER OF TRITIUM FROM BRASS. HUTCHIN, M. E. VAUGHAN, B. E.

HVIDT, A

06419 HYDROGEN EXCHANGE IN PROTEINS HVIDT, A
NIELSEN, S O

INOUE, Y

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN
SOLUTION THROUGH POROUS MEDIA INOUE, Y
KAUFMAN, W J

ISRAEL, G

07013 TRITIUM AND DEUTERIUM CONTENT OF
ATMOSPHERIC HYDROGEN EHRLICH, D ISRAEL, G
ROETHER, W STICH, W

ISRAEL, G - W

06841 MESSUNG DES TRITIUM-JAHRESGANGES IM REGEN
1960-61 NACH ISOTOPENANREICHERUNG IM TRENNROHR
(MEASUREMENT OF THE TRITIUM CONCENTRATION PATTERN
IN 1960-61 BY ISOTOPIC ENRICHMENT IN THE
SEPARATION PERIOD) ISRAEL, G W

06985 SEASONAL VARIATIONS OF BOMB-PRODUCED
TRITIUM IN RAIN ISRAEL, G W ROETHER, W
SCHUMANN, G

ISTOMINA, A G

07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE
IN THE CASE OF INTRAPERITONEAL INJECTION
ZHURAVLEV, V P BUGRYSHEV, P P
ISTOMINA, A G

07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE
ZHURAVLEV, V P BUGRYSHEV, P P
ISTOMINA, A G

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO
FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE
OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND
POSTNATAL LIFE LYAGINSKAYA, A M
ISTOMINA, A G

IWAMI, P S

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE
NATIONAL LABORATORY, REPORT FOR 1964 SEDLET, J
IWAMI, P S

JACKSON, R D

06650 DIFFUSION OF TRITIATED WATER (H-3 H-1 O-16)
IN AGAR GEL AND WATER JACKSON, R D
NAKAYAMA, F S

JACKSON, R D

06273 DIFFUSION OF TRITIATED WATER IN SOILS
NAKAYAMA, F S JACKSON, R D

JACKSON, S

06816 THE ESTIMATION OF INTERNAL RADIATION DOSE
FROM METABOLIC AND URINARY EXCRETION DATA FOR A
NUMBER OF IMPORTANT RADIONUCLIDES JACKSON, S
DOLPHIN, G W

06633 INTERPRETATION OF BIO-ASSAY DATA
DOLPHIN, G W JACKSON, S LISTER, B A

JACOBS D G

06440 SOURCES OF TRITIUM AND ITS BEHAVIOR UPON
RELEASE TO THE ENVIRONMENT JACOBS D G

JACOBS, D G

06278 RELEASE OF TRITIUM IN AN EXPANDING NUCLEAR
POWER ECONOMY AND ITS LONG RANGE BEHAVIOR IN THE
ENVIRONMENT JACOBS, D G

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY
PROGRESS REPORT ON THE THEORETICAL EVALUATION OF
CONSUMER PRODUCTS FROM PROJECT GASBUGGY
JACOBS, D G KELLY, M J

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES
THROUGH SATURATED POROUS MEDIA SHAIKH, M U
JACOBS, D G PARKER, P L

07140 A PRELIMINARY ASSESSMENT OF THE
RADIOLOGICAL IMPLICATIONS OF COMMERCIAL
UTILIZATION OF NATURAL GAS FROM A NUCLEARLY
STIMULATED WELL JACOBS, D G STRUNKS, E G
BOWMAN, C R

JACOBS, G H

06366 ENGINEERING, ECONOMIC, AND SAFETY

EVALUATIONS COWSER, K E PARKER, P L
TADMOR, J BOGGLY, W J, JR JACOBS, G H
LEWELLYN, G H DYSLIN, D A

JENNINGS, C M H

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM
MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN
SOUTHERN AFRICA VERHAGEN, B TH
SELLSCHOP, J P P JENNINGS, C M H

JENSEN, R G

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING
STATION, IDAHO, 1966 BARRACLOUGH, J T
TEASDALE, W E ROBERTSON, J G JENSEN, R G

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING
STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965
BARRACLOUGH, J T TEASDALE, W E
JENSEN, R G

JOHNSON, H A

06993 THE EFFECT OF TRITIATED THYMIDINE ON
MORTALITY AND TUMOR INCIDENCE IN MICE
JOHNSON, H A CRONKITE, E P

JOHNSON, K A

07144 REPAIRING A LARGE TRITIUM-CONTAMINATED
SYSTEM POLKERS, C L JOHNSON, K A

JOHNSON, P C

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE
ISOTOPE ASSAY OF ALDOSTERONE LEBLANC, A D
JOHNSON, P C PERKINS, B C

JOHNSTON, J E

06836 HEALTH PHYSICS AND MEDICAL DIVISION,
PROGRESS REPORT, JANUARY-DECEMBER, 1967
JOHNSTON, J E

JOHNSTON, W M

06402 TRITIUM IN NATURE GROSSE, A V
JOHNSTON, W M WOLFGANG, R L LIBBY, W F

JONES, B A

06462 COMPARISONS OF TRITIATED THYMIDINE,
TRITIATED WATER, AND COBALT-60 GAMMA RAYS IN
INDUCING CHROMOSOMAL ABERRATIONS DEWEY, W C
HUMPHREY, R M JONES, B A

JONES, H G

06492 THE RADIATION HAZARD TO WORKERS USING
TRITIATED LUMINOUS COMPOUNDS JONES, H G
LAMBERT, B E

JONES, W M

06285 THERMODYNAMIC FUNCTIONS FOR TRITIUM AND
TRITIUM HYDRIDE, THE EQUILIBRIUM OF TRITIUM AND
HYDROGEN WITH TRITIUM HYDRIDE, THE DISSOCIATION OF
TRITIUM AND TRITIUM HYDRIDE JONES, W M

JORDAN, C P

06376 THE RAIN FOREST PROJECT ANNUAL REPORT
KLINE, J R JORDAN, C P DREWRY, G E

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM
JORDAN, C P KORANDA, J J KLINE, J R
MARTIN, J R

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT
IN A TROPICAL RAIN FOREST MARTIN, J R
JORDAN, C P KORANDA, J J KLINE, J R

07069 THE RAIN FOREST PROJECT, ANNUAL REPORT
FY-1967 KLINE, J R JORDAN, C P
DREWRY, G E

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN
FOREST KLINE, J R JORDAN, C P

JUNGAS, R L

06441 FATTY ACID SYNTHESIS IN ADIPOSE TISSUE
INCUBATED IN TRITIATED WATER JUNGAS, R L

KALETA, Z

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN
PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER
(HTO) IN STUDIES ON METABOLISM) KALETA, Z
MIKULSKI, A

KALISTRATOVA, V. S.

07080 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. ZHURAVLEV, V. F. KALYAZINA, N. S. KALISTRATOVA, V. S. KRYUK, V. F.

KALYAZINA, N. S.

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. ZHURAVLEV, V. F. KALYAZINA, N. S. KALISTRATOVA, V. S. KRYUK, V. F.

KAMAL, T. H.

06331 TOTAL BODY WATER ESTIMATIONS IN DAIRY CATTLE USING TRITIATED WATER. ASCHBACHER, P. W. KAMAL, T. H. CRAGLE, R. G.

KARFUNKEL, U.

07082 MEASUREMENT OF TRITIUM; METHODS AND INTERPRETATION. KARFUNKEL, U.

KATHREN, R. L.

06996 EFFECT OF ATMOSPHERIC TRITIUM ON PHOTOGRAPHIC, THERMOLUMINESCENT AND RADIOPHOTOLUMINESCENT DOSIMETERS. DENHAM, D. H. KATHREN, R. L.

KATZ, J.

07166 THE DISTRIBUTION OF TRITIUM IN FATTY ACIDS SYNTHESIZED FROM TRITIATED GLUCOSE AND TRITIATED WATER BY RAT ADIPOSE TISSUE. FOSTER, D. W. KATZ, J.

KAUFMAN, S.

06253 THE NATURAL DISTRIBUTION OF TRITIUM. KAUFMAN, S. LIBBY, W. F.

KAUFMAN, W. J.

06254 AN EVALUATION OF GROUND-WATER TRACERS. KAUFMAN, W. J. ORLOB, G. T.

06364 MEASURING GROUND WATER MOVEMENT WITH RADIOACTIVE AND CHEMICAL TRACERS. KAUFMAN, W. J. ORLOB, G. T.

06604 PREDICTION OF MOVEMENT OF RADIONUCLIDES IN SOLUTION THROUGH POROUS MEDIA. INOUE, Y. KAUFMAN, W. J.

KAYE, S. V.

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES PHASE I. COWSER, K. E. KAYE, S. V. ROHWER, P. S. SNYDER, W. S. STRUXNESS, E. G.

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS, PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. ROHWER, P. S. KAYE, S. V.

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. ROHWER, P. S. KAYE, S. V. COWSER, K. E. SNYDER, W. S. STRUXNESS, E. G.

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE III. KAYE, S. V. ROHWER, P. S.

KEELEY, J. W.

06267 AQUIFER STORAGE DETERMINATION BY RADIOTRACER TECHNIQUES. KEELEY, J. W. SCALF, M. R.

KEELEY, R. B.

07110 ENVIRONMENTAL REPORT NO. 6; JANUARY-JUNE 1969. KEELEY, R. B.

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. KEELEY, R. B. WENSTRAND, T. K.

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. KEELEY, R. B. WILCOX, D. P.

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. KEELEY, R. B. WILCOX, D. P.

KELLEHER, W. J.

06964 ENVIRONMENTAL SURVEILLANCE AROUND A NUCLEAR FUEL REPROCESSING INSTALLATION, 1965-1967. KELLEHER, W. J.

KELLEY, H. L.

06456 LOW-LEVEL COUNTING BY LIQUID SCINTILLATION I. TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS. MOGHISSI, A. A. KELLEY, H. L. REGNIER, J. E. CARTER, M. W.

KELLY, M. J.

06330 HEALTH PHYSICS DIVISION, 4TH QUARTERLY PROGRESS REPORT ON THE THEORETICAL EVALUATION OF CONSUMER PRODUCTS FROM PROJECT GASBUGGY. JACOBS, D. G. KELLY, M. J.

06989 QUARTERLY PROGRESS REPORT ON RADIOLOGICAL SAFETY OF PEACEFUL USES OF NUCLEAR EXPLOSIVES; TRANSFER OF TRITIUM TO MAN FROM AN INITIAL WET DEPOSITION. KELLY, M. J. BOOTH, R. S.

KEYS, W. S.

07039 RETENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO. SCHMALZ, B. L. KEYS, W. S.

KHOROBYKH, V. V.

06992 EFFECT OF SEASON AND TEMPERATURE ON PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE. (VLIYANIE VREMENI GODA I TEMPERATURY NA VSASYVANIYE OKISI TRITIYA CHEREZ KOZHU). KHOROBYKH, V. V.

KIEFER, H.

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). KIEFER, H. MAUSHART, R.

KIEPT, P.

07126 INDUCTION OF RECESSIVE LETHALS BY H-3-URIDINE AND H-3-THYMIDINE IN DROSOPHILA. KIEPT, P.

KIGOSHI, K.

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS. KIGOSHI, K. TOMIKURA, Y.

06460 NATURAL CONCENTRATION OF KRYPTON-85, CARBON-14, AND TRITIUM IN RECENT YEARS. KIGOSHI, K.

06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. KIGOSHI, K. YONEDA, K.

KING, V.

06959 A STUDY OF THE MECHANISM OF WATER TRANSFER ACROSS FROG SKIN BY A COMPARISON OF THE PERMEABILITY OF THE SKIN TO DEUTERATED AND TRITIATED WATER. KING, V.

KIRCHMANN, R.

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTEES AVEC DE L'EAU CONTAMINEE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) KIRCHMANN, R. LAPONTAINE, A. VAN DEN HOEK, J. KOCH, G.

KISIELESKI, W. E.

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. SAMUELS, L. D. KISIELESKI, W. E.

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE. BASERGA, R. LISCO, H. KISIELESKI, W. E.

KLEMENT, A. W., JR.

04389 NATURAL RADIONUCLIDES IN FOODS AND FOOD SOURCE MATERIALS. KLEMENT, A. W., JR.

KLINE, J. R.

06376 THE RAIN FOREST PROJECT ANNUAL REPORT.
KLINE, J. R. JORDAN, C. P. DREWRY, G. E.

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM.
JORDAN, C. P. KORANDA, J. J. KLINE, J. R.
MARTIN, J. R.

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT
IN A TROPICAL RAIN FOREST. MARTIN, J. R.
JORDAN, C. P. KORANDA, J. J. KLINE, J. R.

07089 THE RAIN FOREST PROJECT, ANNUAL REPORT
FY-1987. KLINE, J. R. JORDAN, C. P.
DREWRY, G. E.

07189 TRITIUM MOVEMENT IN SOIL OF A TROPICAL RAIN
FOREST. KLINE, J. R. JORDAN, C. P.

KLOFT, W.

07023 VERWENDUNG VON TRITIIERTEM WASSER (THO) ZUR
FORTLAUFENDEN REGISTRIERUNG DES
TRANSPIRATIONSVORLAUFES BEI INSEKTEN. (USE OF
TRITIATED WATER FOR CONTINUOUS REGISTRATION OF
INSECT TRANSPIRATION.) KLOFT, W.
SCHULZE, E.-F.

KNAUSS, H. J.

06393 THE EFFECT OF TRITIUM OXIDE ON SOME
SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA.
PORTER, J. W. KNAUSS, H. J.

KNIGHT, G. B.

06609 ANALYSIS OF EXTERNAL EXPOSURES IN 1986.
KNIGHT, G. B. ADAIR, B.

KNOLL, J. E.

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN
BIOLOGICAL SYSTEMS. BIDINOPP, M. L.
PERRI, G. C. KNOLL, J. E. MARANO, B. J.
ARNHEIM, J.

KNOX, J. B.

06459 WATER QUALITY IN FLOODED NUCLEAR CRATERS.
KNOX, J. B.

KNUTSSON, G.

04942 FIELD AND LABORATORY TESTS OF
CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE
TRACER FOR GROUNDWATER FLOW. KNUTSSON, G.
LJUNGGREN, K. FORSBERG, H. G.

KOCH, A. L.

06865 ON THE DIFFERENCE BETWEEN THE LETHAL
EFFECTS OF H-3 AND P-32 IN BACTERIA. KOCH, A. L.

KOCH, G.

06950 DETECTION DES CONTAMINATIONS DE SURFACE
(DETECTION OF SURFACE CONTAMINATIONS).
GOURSKI, E. BOULENGER, R. KOCH, G.

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS
LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES
ALIMENTES AVEC DE L'EAU CONTAMINEE. (TRANSFER
AND DISTRIBUTION OF TRITIUM AMONG THE MAIN
COMPONENTS OF MILK PRODUCED BY COWS HAVING
INGESTED CONTAMINATED WATER.) KIRCHMANN, R.
LAPONTAINE, A. VAN DEN HOEK, J. KOCH, G.

KOCH, J.

06803 INCORPORATION OF (H-3) THYMIDINE INTO
NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED
MAMMALIAN CELLS. KOCH, J. STOKSTAD, E. L. R.

KOENIG, L. A.

07030 RADIOLOGICAL PROTECTION PROBLEMS OF
TRITIUM. DIETRICH, E. KOENIG, L. A.

KOENIG, R.

07175 COMPARISON OF HYDROLOGICAL AND MATHEMATICAL
METHODS IN ANALYSIS OF TRITIUM DATA. KOENIG, R.
REITINGER, J.

KORANDA, J.

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES
PRODUCED IN PLOWSHARE EVENTS. SHORE, B.

ANSPAUGH, L. CHERTOK, R. GOPMAN, J.
HARRISON, P. HEPT, R. KORANDA, J. NG, Y.
PHELPS, P. POTTER, G. TAMPLIN, A.

KORANDA, J. J.

03732 PRELIMINARY STUDIES OF THE PERSISTENCE OF
TRITIUM AND C-14 IN THE PACIFIC PROVING GROUND.
KORANDA, J. J.

06239 RESIDUAL TRITIUM AT SEDAN CRATER.
KORANDA, J. J.

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II
SOIL AND EJECTA STUDIES. KORANDA, J. J.
MARTIN, J. R. WIKKERINK, R.

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER.
KORANDA, J. J. MARTIN, J. R. WIKKERINK, R. W.

06371 THE PERSISTENCE OF RADIONUCLIDES AT SITES
OF NUCLEAR DETONATIONS. KORANDA, J. J.
MARTIN, J. R.

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO
RATS LIVING AT SEDAN CRATER. HATCH, P. T.
MAZIRNAS, J. A. GREENWAY, G. G. KORANDA, J. J.
MOORE, J. L.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR
PROJECT SCHOONER. ANSPAUGH, L. R.
CHERTOK, R. J. CLEGG, B. R. COHEN, J. J.
GRABBS, R. J. HARRISON, P. L. HEPT, R. E.
HOLLADAY, G. KORANDA, J. J. NG, Y. C.
PHELPS, P. L. POTTER, G. B.

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM.
JORDAN, C. P. KORANDA, J. J. KLINE, J. R.
MARTIN, J. R.

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT
IN A TROPICAL RAIN FOREST. MARTIN, J. R.
JORDAN, C. P. KORANDA, J. J. KLINE, J. R.

06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND
INVENTORY IN SEDAN CRATER EJECTA. MARTIN, J. R.
KORANDA, J. J.

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO
RATS LIVING IN A TRITIATED ENVIRONMENT.
HATCH, P. T. MAZIRNAS, J. A. KORANDA, J. J.
MARTIN, J. R.

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF
RADIONUCLIDES IN NUCLEAR CRATER EJECTA.
KORANDA, J. J. MARTIN, J. R. WIKKERINK, R.
STUART, M.

KORPP, S. A.

06847 TRITIUM CONTENT OF ANTARCTIC SNOW.
SHEN, S. P. KORPP, S. A. NEUBURG, H. A. C.

KORNBERG, H. A.

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND
TRITIUM OXIDE. DELONG, C. W. THOMPSON, R. C.
KORNBERG, H. A.

06345 DETERMINATION OF RBE BY MICROBIOLOGICAL
METHODS. GETZENDANER, M. E. FUJIHARA, M. P.
KORNBERG, H. A.

06469 HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM
OXIDE. THOMPSON, R. C. KORNBERG, H. A.

06784 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE.
DELONG, C. W. THOMPSON, R. C. KORNBERG, H. A.

07090 BIOLOGY RESEARCH; ANNUAL REPORT, 1951.
KORNBERG, H. A.

KRUGER, S. T.

06895 NATURAL TRITIUM. NIR, A. KRUGER, S. T.
LINGENFELTER, R. E. PLAMM, B. J.

KRYUK, V. P.

07060 BIOLOGICAL EFFECTS AND KINETICS OF THE
ELIMINATION OF TRITIUM OXIDE IN DOGS.
ZHURAVLEV, V. P. KALYAZINA, N. S.
KALISTRATOVA, V. S. KRYUK, V. P.

KULP, J. L.

06252 THE GEOCHEMISTRY OF TRITIUM.
GILETTI, B. J. BAZAN, P. KULP, J. L.

- 06788 TRITIUM TRACER IN ARCTIC PROBLEMS
GILETTI, B J KULP, J. L
- KUZ MINA, T D
- 07068 STATE OF AUTOINFECTIOUS RESISTANCE IN MICE
TREATED WITH TRITIUM OXIDE SHAL NOVA, G A
ZHURAVLEV, V P KUZ MINA, T D
- K-O
- 07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969)
GEOSPCS INTERCALIBRATION STATION ROETHER, W
MUENNICH, K-O OESTLUND, H G
- LA GATTA, D P
- 04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR
CARBON-14 AND TRITIUM DROBINSKI, J C, JR
LA GATTA, D P GOLDIN, A S
TERRILL, J G, JR
- LABEYRIE, J
- 06963 ACCROISSEMENT DU TRITIUM ATMOSPHERIQUE DU
AUX EXPLOSIONS THERMONUCLEAIRES. (INCREASE OF
ATMOSPHERIC TRITIUM FROM THERMONUCLEAR
EXPLOSIONS) BIBRON, R DELIBRIAS, G
LABEYRIE, J
- 07031 EVOLUTION DE LA CONCENTRATION DU TRITIUM
DANS LES EAUX DE PRECIPITATION EN FRANCE
(EVOLUTION OF THE TRITIUM CONCENTRATION IN
PRECIPITATION IN FRANCE) BIBRON, R
DELIBRIAS, G LABEYRIE, J
- LAFONTAINE, A
- 07024 TRANSFERT ET REPARTITION DU TRITIUM DANS
LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES
ALIMENTES AVEC DE L'EAU CONTAMINEE (TRANSFER
AND DISTRIBUTION OF TRITIUM AMONG THE MAIN
COMPONENTS OF MILK PRODUCED BY COWS HAVING
INGESTED CONTAMINATED WATER) KIRCHMANN, R
LAFONTAINE, A VAN DEN HOEK, J KOCH, G
- LAJTHA, L G
- 06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER
OF MAMMALIAN CELLS IN A MONOLAYER NIAS, A H W
LAJTHA, L G
- LALA, P K
- 06427 MEASUREMENT OF S PERIOD IN GROWING CELL
POPULATIONS BY A GRAPHIC ANALYSIS OF DOUBLE
LABELLING WITH H-3- AND C-14-THYMIDINE
LALA, P K
- LAL, D
- 05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN
NATURAL WATERS II CHARACTERISTICS OF GLOBAL
FALLOUT OF H-3 AND SR-90 ATHAVALE, R N
LAL, D RAMA
- 06246 THE PRODUCTION RATE OF NATURAL TRITIUM
CRAIG, H LAL, D
- 06255 THE MEASUREMENT OF TRITIUM ACTIVITY IN
NATURAL WATERS I TECHNIQUES LAL, D
ATHAVALE, R N
- 06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC
MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90
LAL, D RAMA
- LAMBERT, B E
- 06492 THE RADIATION HAZARD TO WORKERS USING
TRITIATED LUMINOUS COMPOUNDS JONES, H G
LAMBERT, B E
- 06978 RADIATION DOSES RESULTING FROM THE
ADMINISTRATION OF TRITIATED POLIC ACID AND
TRITIATED WATER TO THE RAT LAMBERT, B E
CLIFTON, R J
- LANGHAM, W
- 06631 A THEORETICAL CONSIDERATION OF THE HAZARDS
ASSOCIATED WITH ACUTE EXPOSURE TO HIGH
CONCENTRATIONS OF TRITIUM GAS ANDERSON, B C
LANGHAM, W
- LANGHAM, W H
- 04893 RADIOISOTOPE ABSORPTION AND METHODS OF
ELIMINATION- RELATIVE SIGNIFICANCE OF PORTALS OF
ENTRY LANGHAM, W H
- 06192 ESTIMATION OF MAXIMUM PERMISSIBLE
CONCENTRATIONS OF RADIOISOTOPES IN WATER (MPC)W
FROM INTERSPECIES CORRELATIONS I COMPARISON OF
ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND
TRITIUM RICHMOND, C R FURCHNER, J E
LANGHAM, W H
- 06240 COMPARATIVE METABOLISM OF TRITIATED WATER
BY MAMMALS RICHMOND, C R LANGHAM, W H
TRUJILLO, T T
- 06426 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN
MAN PETERSON, E A LANGHAM, W H
- 07125 BIOLOGICAL CONSIDERATIONS OF NONNUCLEAR
INCIDENTS INVOLVING NUCLEAR WARHEADS
LANGHAM, W H
- 07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH
CONCENTRATIONS OF TRITIUM GAS TRUJILLO, T T
ANDERSON, B C LANGHAM, W H
- LANG, A R G
- 06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND
WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF
CYCLIC DRYING LANG, A R G MASON, S G
- LARSON, J D
- 07049 CHEMICAL AND RADIOCHEMICAL ANALYSES OF
WATER FROM STREAMS, RESERVOIRS, WELLS, AND SPRINGS
IN THE RULSON PROJECT AREA, GARFIELD AND MESA
COUNTIES, COLORADO LARSON, J D BEETEM, W A
- LAUNAY, M
- 06215 TRITIUM ET HYDROGEOLOGIE, ETUDES ET MESURES
EFFECTUES AU CENTRE D'ETUDES NUCLEAIRES DE
GRENOBLE (TRITIUM AND HYDROGEOLOGY, INVESTIGATIONS
AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE
NUCLEAR RESEARCH CENTRE) GUIZERIX, J
MARGRITA, R LAUNAY, M RUBY, P
- LAU, L S
- 06902 TRITIUM MEASUREMENTS IN NATURAL HAWAIIAN
WATER- INSTRUMENTATION LAU, L S HAILU, T
- LA-VRECHNIK, V N
- 06925 GLOBAL FALLOUT OF NUCLEAR EXPLOSION
PRODUCTS LAVRECHNIK, V N
- LAWAS, I
- 06995 DETERMINATION OF TOTAL BODY WATER IN
HEALTHY FILIPINO SUBJECTS WITH THE USE OF
TRITIATED WATER LAWAS, I
- LAWRENCE, J N P
- 06284 ESTIMATION OF WHOLE BODY DOSE (REM) FROM
TRITIUM IN BODY WATER LAWRENCE, J N P
- LAYTON, B R
- 06936 TRITIUM IN ATMOSPHERIC HYDROGEN AND
ATMOSPHERIC WATER LAYTON, B R
- LE GRAND, J
- 07151 CONSEQUENCES SANITAIRES DES REJETS
ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE (EFFECTS
ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED
STEAM) PLANET, J UZZAN, G LE GRAND, J
- LEAVITT, V D
- LEAVITT, V D
- LEBLANC, A D
- 07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE
ISOTOPE ASSAY OF ALDOSTERONE LEBLANC, A D
JOHNSON, P C PERKINS, B C
- LEBOULEUX, P
- 06624 DETECTION DE LA CONTAMINATION DE L'AIR PAR
LA VAPEUR D'EAU TRITIEE AUPRES DE LA PILE BL 3
(DETECTION OF THE CONTAMINATION OF AIR BY
TRITIATED WATER VAPOR AROUND THE REACTOR BL 3)
LEBOULEUX, P ARDELLIER, A VALERO, S
- LEE, B L
- 07139 INTERPRETING THE CHEMICAL RESULTS OF THE
GASBUDDY EXPERIMENT TAYLOR, R W LEE, B L
HILL, J H

LEONARD, J. H.

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR. MOUNTAIN, J. E. LEONARD, J. H.

LEROY, J. H.

04073 OBSERVATION OF BIOLOGICAL HALF-LIFE OF TRITIUM. BUTLER, H. L. LEROY, J. H.

LETOLLE, R.

06213 OXYGENE-18 ET TRITIUM DANS LE BASSIN DEVIEN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). PONTES, J. C. LETOLLE, R. OLIVE, P. BLAVOUX, B.

LEVENTHAL, J. S.

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. LEVENTHAL, J. S. LIBBY, W. P.

06617 THE USE OF TRITIUM TO MEASURE THE MOVEMENT OF GROUNDWATER TOWARD IRRIGATION WELLS IN WESTERN FRESNO COUNTY, CALIFORNIA. HASKELL, B. B., JR. LEVENTHAL, J. S. BIANCHI, W. C.

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL ALTITUDES. MILLER, M. M. LEVENTHAL, J. S. LIBBY, W. P.

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. LEVENTHAL, J. S. LIBBY, W. P.

LEVEQUE, P.

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM ACTIVITY IN THE SOUTHWEST OF FRANCE). LEVEQUE, P. VIGNEAUX, M. ALVINERIE, J.

07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) ALVINERIE, J. DEGOT, B. LEVEQUE, P. VIGNEAUX, M.

07022 RESULTATS DE MESURES D'ACTIVITE EN TRITIUM DE CERTAINES EAUX DU SUD-OUEST. (RESULTS OF TRITIUM ACTIVITY MEASUREMENTS OF SOME WATER OF THE SOUTHWEST.) LEVEQUE, P. VIGNEAUX, M.

LEVIN, A. A.

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. MARTIN, W. E. RAINES, G. E. BLOOM, S. G. LEVIN, A. A.

LEWIS, D. C.

06281 THE RELATIONSHIP BETWEEN OAK TREE ROOTS AND GROUNDWATER IN FRACTURED ROCK AS DETERMINED BY TRITIUM TRACING. LEWIS, D. C. BURG, R. H.

LIBBY, W. P.

06205 TRITIUM GEOPHYSICS FROM 1961-1962 NUCLEAR TESTS. LEVENTHAL, J. S. LIBBY, W. P.

06245 CONTINENTAL WATER BALANCE, GROUND WATER INVENTORY AND STORAGE TIMES, SURFACE OCEAN MIXING RATES AND WORLD-WIDE WATER CIRCULATION PATTERNS FROM COSMIC RAY AND MAN-MADE TRITIUM. BEGBMANN, P. LIBBY, W. P.

06253 THE NATURAL DISTRIBUTION OF TRITIUM. KAUPMAN, S. LIBBY, W. P.

06383 MORATORIUM TRITIUM GEOPHYSICS. LIBBY, W. P.

06387 THE POTENTIAL USEFULNESS OF NATURAL TRITIUM. LIBBY, W. P.

06397 TRITIUM IN NATURE. LIBBY, W. P.

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM II. VON BUTTLAR, H. LIBBY, W. P.

06402 TRITIUM IN NATURE. GROSSE, A. V. JOHNSTON, W. M. WOLFGANG, R. L. LIBBY, W. P.

06482 RADIOCARBON DATING. LIBBY, W. P.

06840 TRITIUM AND HELIUM-3 IN SOLAR FLARES AND LOSS OF HELIUM FROM THE EARTH'S ATMOSPHERE. PLAMM, B. LINGENFELTER, R. E. MACDONALD, G. J. P. LIBBY, W. P.

06851 TRITIUM GEOPHYSICS. LIBBY, W. P.

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL ALTITUDES. MILLER, M. M. LEVENTHAL, J. S. LIBBY, W. P.

06974 TRITIUM FALLOUT IN THE PACIFIC UNITED STATES. LEVENTHAL, J. S. LIBBY, W. P.

LIEBERMAN, R.

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968. MOGHISSI, A. A. LIEBERMAN, R.

LINDENMAYR, G.

07017 NEW TRITIUM AND DEUTERIUM MEASUREMENTS IN ATMOSPHERIC HYDROGEN. GONSION, B. FRIEDMAN, I. LINDENMAYR, G.

LINGENFELTER, R. E.

06840 TRITIUM AND HELIUM-3 IN SOLAR FLARES AND LOSS OF HELIUM FROM THE EARTH'S ATMOSPHERE. PLAMM, B. LINGENFELTER, R. E. MACDONALD, G. J. P. LIBBY, W. P.

06895 NATURAL TRITIUM. NIR, A. KRUGER, S. T. LINGENFELTER, R. E. PLAMM, B. J.

LISCO, H.

06782 TUMOR INDUCTION IN MICE BY RADIOACTIVE THYMIDINE. BASERGA, R. LISCO, H. KISILEWSKI, W. E.

LISTER, B. A.

06833 INTERPRETATION OF BIO-ASSAY DATA. DOLPHIN, G. W. JACKSON, S. LISTER, B. A.

LJUNGGREN, K.

04942 FIELD AND LABORATORY TESTS OF CHROMIUM-51-EDTA AND TRITIUM WATER AS A DOUBLE TRACER FOR GROUNDWATER FLOW. KNUTSSON, G. LJUNGGREN, K. FORSBERG, H. G.

LLEWELLYN, G. H.

06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. COWSER, K. E. PARKER, F. L. TADMOR, J. BOGGLY, W. J., JR. JACOBS, G. H. LLEWELLYN, G. H. DYSLIN, D. A.

LOGSDON, D. P., JR.

07050 REDUCTION OF RADIATION HAZARD IN TRITIUM METHOD OF MEASURING TOTAL BODY WATER. LOGSDON, D. P., JR. GREEN, J. P. HARPER, J. W.

LORENZ, J. J.

07073 CARLSBAD SITE ROLL-UP PROGRAM; ON-SITE RADIOLOGICAL SAFETY REPORT. TAPPAN, J. T. LORENZ, J. J.

LORIUS, C.

06978 TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA. RAVOIRE, J. LORIUS, C. ROBERT, J. ROTH, E.

LOWMAN, P. G.

06382 THE EFFECTS OF THE MARINE BIOSPHERE AND HYDROSPHERE UPON THE SPECIFIC ACTIVITY OF CONTAMINANT RADIONUCLIDES. LOWMAN, P. G.

LOW-BEER, A. DE G.

06426 REPORT OF THE BIOASSAY PROGRAMS; JULY 1968 THROUGH JUNE 1969. SARGENT, T. W. WRIGHT, S. R. BUCKLEY, B. C. LOW-BEER, A. DE G.

LUNDGREN, L. B.

06876 STOCKHOLM NATURAL TRITIUM MEASUREMENTS I. OESTLUND, G. LUNDGREN, L. B.

LYAGINSKAYA, A. M.

07067 TRANSFER OF TRITIUM OXIDE FROM MOTHER TO FETUS AND PECULIARITIES OF THE DEVELOPMENT OF THE OFFSPRING OF RATS IN THE PERIODS OF PRENATAL AND POSTNATAL LIFE. LYAGINSKAYA, A. M. ISTOMINA, A. G.

LYNCH, E J

06626 TRANSPORT OF RADIONUCLIDES BY GROUND WATER-
SOME THEORETICAL ASPECTS LYNCH, E J
DAVIS, S N POSTLE, G L

LYON, R J

06980 TRITIUM CONCENTRATIONS IN FOOD, 1967-1968
MOGHISSI, A A LYON, R J

LYUBIMOVA-GERASIMOVA, R M

07066 THE CONDITION OF THE CARDIOVASCULAR,
RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED
WITH TRITIUM OXIDE VESELOVSKAYA, K A
LYUBIMOVA-GERASIMOVA, R M ZHURAVLEV, V P

MACDONALD, G J F

06840 TRITIUM AND HELIUM-3 IN SOLAR FLARES AND
LOSS OF HELIUM FROM THE EARTH'S ATMOSPHERE
PLAMM, E LINGENFELTER, R E
MACDONALD, G J F LIBBY, W P

MACHTA, L

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE,
AND TRITIUM HAGEMANN, P GRAY, J, JR
MACHTA, L TURKEVICH, A

MAGNO, P J

07048 PLUTONIUM, TRITIUM AND CARBON-14 IN MAN AND
THE BIOSPHERE DROBINSKI, J C, JR
MAGNO, P J GOLDIN, A S

MANCHESTER, A V

06464 TRITIATED MOISTURE IN THE ATMOSPHERE
SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT
DALY, J C MANCHESTER, A V GABAY, J J
SAX, N I

MARANO, B J

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN
BIOLOGICAL SYSTEMS EIDINOFF, M L
PERRI, G C KNOLL, J E MARANO, B J
ARNHEIM, J

MARCE, A

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES
EAUX SOUTERRAINES HUBERT, P MARCE, A
OLIVE, P SIWERTZ, E

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU
TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952
(ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER
MIDDLE LATITUDES SINCE 1952) BOSCH, B
GUEGAN, B HUBERT, P MARCE, A OLIVE, P
SIWERTZ, E

MARGRITA, R

06215 TRITIUM ET HYDROGEOLOGIE, ETUDES ET MESURES
EFFECTUEES AU CENTRE D'ETUDES NUCLEAIRES DE
GRENOBLE (TRITIUM AND HYDROGEOLOGY, INVESTIGATIONS
AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE
NUCLEAR RESEARCH CENTRE) GUIZERIX, J
MARGRITA, R LAUNAY, M RUBY, P

07171 CONTRIBUTION DES MESURES ISOTOPIQUES A
L'ETUDE DE LA FONTAINE DE VAUCLUSE (CONTRIBUTION
OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE
FONTAINE DE VAUCLUSE) MARGRITA, R EVIN, J
PLANDRIN, J PALOC, H

MARSHALL, R O

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL
SUSPENSIONS SMITH, G N MARSHALL, R O

MARTELL, E A

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE,
AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE
SCHOLZ, T G EHRLHART, D H HEIDT, L E
MARTELL, E A

06975 ON THE INVENTORY OF ARTIFICIAL TRITIUM AND
ITS OCCURRENCE IN ATMOSPHERIC METHANE
MARTELL, E A

MARTINEC, J

07166 VARIATION OF THE TRITIUM AND OXYGEN-18
CONTENT IN PRECIPITATION AND SNOWPACK IN A

REPRESENTATIVE BASIN IN CZECHOSLOVAKIA
DINCER, T MARTINEC, J YEN, C K
PAYNE, B R

MARTIN, D W

06219 VOLUME AND TURNOVER OF BODY WATER IN
DIPLODOMYS DESERTI WITH TRITIATED WATER
RICHMOND, C R TRUJILLO, T T MARTIN, D W

MARTIN, J E

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM
INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES
PETERSON, H T, JR MARTIN, J E
WEAVER, C L HARWARD, E D 07130 TRITIUM
UPTAKE FOLLOWING A THERMONUCLEAR TEST
MASON, B J WIPPER, W J

MARTIN, J M

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN
MILIEU LACUSTRE ET ESTUARIN, APPLICATION AU LAC
DE GENEVE ET A LA GIRONDE (TRITIUM STUDY OF THE
MIXING OF WATERS IN LAKES AND ESTUARIES, WITH
PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE
GIRONDE) MEYBECK, M HUBERT, P
MARTIN, J M OLIVE, P

MARTIN, J R

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II
SOIL AND EJECTA STUDIES KORANDA, J J
MARTIN, J R WIKKERINK, R

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER
KORANDA, J J MARTIN, J R WIKKERINK, R W

06371 THE PERSISTENCE OF RADIONUCLIDES AT SITES
OF NUCLEAR DETONATIONS KORANDA, J J
MARTIN, J R

06986 TRITIUM MOVEMENT IN A TROPICAL ECOSYSTEM
JORDAN, C P KORANDA, J J KLINE, J R
MARTIN, J R

06987 RADIOECOLOGICAL STUDIES OF TRITIUM MOVEMENT
IN A TROPICAL RAIN FOREST MARTIN, J R
JORDAN, C P KORANDA, J J KLINE, J R

06991 TRITIUM DISTRIBUTION, RESIDENCE TIME, AND
INVENTORY IN SEDAN CRATER EJECTA MARTIN, J R
KORANDA, J J

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO
RATS LIVING IN A TRITIATED ENVIRONMENT
HATCH, P T MAZIMAS, J A KORANDA, J J
MARTIN, J R

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF
RADIONUCLIDES IN NUCLEAR CRATER EJECTA
KORANDA, J J MARTIN, J R WIKKERINK, R
STUART, M

MARTIN, W E

06361 ECOLOGICAL TRANSFER MECHANISMS -
TERRESTRIAL MARTIN, W E RAINES, G E
BLOOM, S G LEVIN, A A

MASIRONI, R

06839 PHYSIOLOGICAL EFFECTS OF TRITIATED WATER ON
RHODOTORULA GRACILIS AS INFLUENCED BY CYSTAMINE
GIOVANNIOZZI-SERMANI, G MASIRONI, R
CACCIARI, I

MASON, B J

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM
INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES
PETERSON, H T, JR MARTIN, J E
WEAVER, C L HARWARD, E D 07130 TRITIUM
UPTAKE FOLLOWING A THERMONUCLEAR TEST
MASON, B J WIPPER, W J

MASON, S G

06362 TRITIUM EXCHANGE BETWEEN CELLULOSE AND
WATER- ACCESSIBILITY MEASUREMENTS AND EFFECTS OF
CYCLIC DRYING LANG, A R G MASON, S G

MASSON, J

06209 METHODE DE DOSAGE DE LEAU TRITIEE ET SES
APPLICATIONS EN CLINIQUE HUMAINE (A METHOD FOR
TRITIATED WATER DOSAGE AND ITS APPLICATIONS IN
CLINICAL PRACTICE) FALLOT, P AEBERHARDT, A
MASSON, J

MATTHESS, G.

06857 TRITIUMGEHALTE IN WASSER TIEFERER GRUNDWASSERSTOCKWERKE (TRITIUM CONTENT OF WATER IN DEEP GROUNDWATER BASINS). MATTHESS, G. THILO, L. ROTHER, W. MUENNICH, K. O.

MAURO, P.

06863 VARIAZIONI DELLA CRESCITA FAGICA DOPO TRATTAMENTO DEL BATTERIO OSPITE (ESCHERICHIA COLI) CON ACQUA TRITIATA (VARIATIONS OF PHAGE GROWTH AFTER TRITIUM WATER TREATMENT OF THE HOST BACTERIUM (E COLI)). MAURO, P. GIOVANNONEZZI-SERMANNI, G. BOTS, M.

MAUSHART, R.

06948 KONTINUIERLICHE TRITIUM-UEBERWACHUNG IN LUFT UND WASSER (CONTINUOUS TRITIUM MONITORING IN AIR AND WATER). KIEFER, H. MAUSHART, R.

MAYNEORD, W. V.

06879 THE NATURAL RADIOACTIVITY OF THE HUMAN BODY. MAYNEORD, W. V.

MAZIRIMAS, J. A.

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. HATCH, P. T. MAZIRIMAS, J. A. GREENWAY, G. G. KORANDA, J. J. MOORE, J. L.

07027 ECOLOGY AND RADIATION EXPOSURE OF KANGAROO RATS LIVING IN A TRITIATED ENVIRONMENT. HATCH, P. T. MAZIRIMAS, J. A. KORANDA, J. J. MARTIN, J. R.

MCCONNON, D.

07115 THE USE OF WATER AS A SAMPLING MEDIUM FOR TRITIUM OXIDE. MCCONNON, D.

MCKOWN, D. A.

07114 HEALTH PHYSICS BIBLIOGRAPHY ON TRITIUM. MCKOWN, D. A.

MCMAHON, J. W.

06425 THE DISPERSION OF TRITIUM IN PERCH LAKE. MCMAHON, J. W.

MCMAHUS, W. R.

06860 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. MCMAHUS, W. R. PRICHARD, R. K. BAKER, C. PETRUCHENIA, M. V.

MCNELIS, D. N.

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. MCNELIS, D. N. PATZER, R. G.

MERRITT, M. L.

07150 PHYSICAL AND BIOLOGICAL EFFECTS; MILROW EVENT. MERRITT, M. L.

MERRITT, W. F.

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS. MERRITT, W. F. PARSONS, P. J.

07056 THE PERCH LAKE EVAPORATION STUDY. BARRY, P. J. MERRITT, W. F.

MESTRE, E.

06949 L INTERVENTION ET LA DECONTAMINATION DU MATERIEL CONTAMINE AU TRITIUM (INTERVENTION AND DECONTAMINATION OF MATERIAL CONTAMINATED WITH TRITIUM). CERRE, P. MESTRE, E.

MEYBECK, M.

06997 ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA)). HUBERT, P. MEYBECK, M. OLIVE, P.

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTAURIEN; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE

GIRONDE.) MEYBECK, M. HUBERT, P. MARTIN, J. M. OLIVE, P.

MIKULSKI, A.

06426 ZASTOSOWANIE WODY TRYTOWEJ (HTO) DO BADAN PRZEMIAN USTROJOWYCH (THE USE OF TRITIUM WATER (HTO) IN STUDIES ON METABOLISM). KALBA, Z. MIKULSKI, A.

MILLER, M. M.

06972 TRITIUM IN MT. EVEREST ICE--ANNUAL GLACIER ACCUMULATION AND CLIMATOLOGY AT GREAT EQUATORIAL ALTITUDES. MILLER, M. M. LEVENTHAL, J. S. LIBBY, W. P.

MINDER, W.

06861 INTERNE KONAMINATION MIT TRITIUM (INTERNAL CONTAMINATION BY TRITIUM). MINDER, W.

MITTELHAUSER, H. M.

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE CRITICAL POINT OF HYDROGEN. MITTELHAUSER, H. M. THODOS, G.

MOGHISSI, A. A.

06458 LOW-LEVEL COUNTING BY LIQUID SCINTILLATION I. TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS. MOGHISSI, A. A. KELLEY, H. L. REGNIER, J. B. CARTER, M. W.

06463 TRITIUM IN SURFACE WATERS OF THE UNITED STATES, 1966. MOGHISSI, A. A. PORTER, C. R.

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. MOGHISSI, A. A. TOEBER, E. D. REGNIER, J. B. CARTER, M. W. POSBY, C. D.

06878 TRITIUM CONCENTRATION IN PRECIPITATION, 1967-1968. MOGHISSI, A. A. PORTER, C. R.

06979 TRITIUM BODY BURDEN OF CHILDREN, 1967-1968. MOGHISSI, A. A. LIEBERMAN, R.

06980 TRITIUM CONCENTRATIONS IN FOOD, 1967-1968. MOGHISSI, A. A. LYON, R. J.

07132 ANALYSIS AND PUBLIC HEALTH ASPECTS OF ENVIRONMENTAL TRITIUM. MOGHISSI, A. A.

MOMYER, P. F.

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. SMITH, C. F. MOMYER, P. F.

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. SMITH, C. F. MOMYER, P. F.

MOORE, D.

06257 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965, APPENDICES. MOORE, D. ESSIG, T. H.

MOORE, J. L.

06388 STUDIES ON LIVER DNA IN TRITIATED KANGAROO RATS LIVING AT SEDAN CRATER. HATCH, P. T. MAZIRIMAS, J. A. GREENWAY, G. G. KORANDA, J. J. MOORE, J. L.

MOORE, R.

07012 A COMPARISON OF HTO IN PLASMA AND EXPIRED WATER VAPOR. MOORE, R.

MORGAN, I. L.

07076 TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION. NELLIS, D. O. HUDSPETH, E. L. MORGAN, I. L. BUCHANAN, P. S. BOGGS, R. P.

MORGAN, K. Z.

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. MORGAN, K. Z. SNYDER, W. S. STRUXNESS, E. G.

06938 RADIATION HAZARDS ASSOCIATED WITH TRITIUM. MORGAN, K. Z.

MORRIS, D A

06234 USE OF CHEMICAL AND RADIOACTIVE TRACERS AT THE NATIONAL REACTOR TESTING STATION, IDAHO
MORRIS, D A

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL, NATIONAL REACTOR TESTING STATION, IDAHO, ANNUAL PROGRESS REPORT, 1963 MORRIS, D A
TEASDALE, W E

MORRIS, E C

06628 REMOTE TRITIUM AIR MONITORING SYSTEM
MORRIS, E C

MORTON, R J (ED)

07108 STATUS REPORT NO 5 ON CLINCH RIVER STUDY
MORTON, R J (ED)

MOSKALEV, YU I

06862 EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE (K EKSPERIMENTAL NOMU OBOSNOVANIYU PREDEL NO DOPUSTIMOY KONTSENTRATSII OKISI TRITIVA)
MOSKALEV, YU I ZHURAVLEV, V P

MOUNTAIN, J E

07072 TRITIUM PRODUCTION IN A PRESSURIZED WATER REACTOR MOUNTAIN, J E LEONARD, J H

MUENNICH

07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSBCS INTERCALIBRATION STATION ROETHER, W
MUENNICH, K O OESTLUND, H G

MUENNICH, K O

04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER MUENNICH, K O ROETHER, W

06210 DATING OF GROUNDWATER WITH TRITIUM AND C-14 MUENNICH, K O ROETHER, W THILO, L

06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES
MUENNICH, K O ROETHER, W

06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED BY MEANS OF HYDROGEN ISOTOPES ZIMMERMANN, U
MUENNICH, K O ROETHER, W

06857 TRITIUMGEHALTE IN WASSER TIEFERER GRUNDWASSERSTOCKWERKE (TRITIUM CONTENT OF WATER IN DEEP GROUNDWATER BASINS) MATTHESS, G
THILO, L ROETHER, W MUENNICH, K O

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION, CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER
ZIMMERMANN, U BHALT, D MUENNICH, K O

MUIR, J R

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL
SNYDER, W S PISH, B R BERNARD, S R
FORD, M R MUIR, J R

MUSGRAVE, B

06237 CHEMICAL STATE OF TRITIUM IN THE ATMOSPHERE AND SOURCES OF TRITIATED METHANE HAINES, A
MUSGRAVE, B

MUSGRAVE, B C

06204 TRITIUM CONTENT OF ATMOSPHERIC METHANE AND ETHANE HAINES, A MUSGRAVE, B C

06926 PROGRESS REPORT (ON ANALYSIS OF ATMOSPHERIC SAMPLES), AUGUST 20, 1965 - OCTOBER 31, 1966
MUSGRAVE, B C

NAKAYAMA, P S

06273 DIFFUSION OF TRITIATED WATER IN SOILS
NAKAYAMA, P S JACKSON, R D

06650 DIFFUSION OF TRITIATED WATER (H-3 H-1 O-16) IN AGAR GEL AND WATER JACKSON, R D
NAKAYAMA, P S

NAKHIL NITSKAYA, Z N

07042 TOXICITY OF TRITIUM OXIDE

ZAKUTINSKII, D I NAKHIL NITSKAYA, Z N
PETROVICH, T K

NATHANS, M W

06867 PROJECT GNOME, ISOTOPE PROGRAM, FINAL REPORT NATHANS, M W

NELLIS, D O

07076 TRITIUM CONTAMINATION IN PARTICLE ACCELERATOR OPERATION NELLIS, D O
HUDSPETH, E L MORGAN, I L BUCHANAN, P S
BOGGS, R P

NELSON, D J

06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS REICHEL, D E DUNAWAY, P B
NELSON, D J

NEUBURG, H A C

06847 TRITIUM CONTENT OF ANTARCTIC SNOW
SHEN, S P KORPP, S A NEUBURG, H A C

NEWCOMB, D L

06787 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO
OSLOOND, J H NEWCOMB, D L

06799 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO
OSLOOND, J H NEWCOMB, D L

NEWKIRK, L L

06849 CALCULATION OF LOW-ENERGY NEUTRON FLUX IN THE ATMOSPHERE BY THE S SUB N METHOD
NEWKIRK, L L

NG, Y

06372 THE PATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN PLOWSHARE EVENTS SHORE, B
ANSPAUGH, L CHERTOK, R GOPMAN, J
HARRISON, P HEPT, R KORANDA, J NG, Y
PHELPS, P POTTER, G TAMPLIN, A

NG, Y C

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER ANSPAUGH, L R
CHERTOK, R J CLEGG, B R COHEN, J J
GRABSKA, R J HARRISON, F L HEPT, R B
HOLLADAY, G KORANDA, J J NG, Y C
PHELPS, P L POTTER, G B

NIAS, A H W

06877 CONTINUOUS IRRADIATION WITH TRITIATED WATER OF MAMMALIAN CELLS IN A MONOLAYER NIAS, A H W
LAJTHA, L G

NIELSEN, J M

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT PERKINS, R W NIELSEN, J M

NIELSEN, S O

06419 HYDROGEN EXCHANGE IN PROTEINS HVIDT, A
NIELSEN, S O

NIELSON, J M

06295 RECOMMENDED PROCEDURES FOR TRITIUM
NIELSON, J M

NIR, A

06355 SEPARATION FACTOR OF TRITIATED WATER FRACTIONAL IN DISTILLATION AVINUR, P NIR, A

06895 NATURAL TRITIUM NIR, A KRUGER, S T
LINGENFELTER, R E FLAMM, E J

NISHIDA, M

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER TAKAHASHI, T NISHIDA, M
OHNO, S HAMADA, T

NIXON, W

06806 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS PETERSON, J I
WAGNER, P SIEGEL, S NIXON, W

NORK, W. E.

06809 RADIOACTIVITY IN THE HYDROLOGIC ENVIRONMENT; PROJECT RULISON, FINAL PRE-SHOT REPORT. NORK, W. E.

06821 RADIOACTIVITY IN WATER - PROJECT RULISON. NORK, W. E. FENSKE, P. R.

NOSHKIN, V. E.

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. VOLCHOK, H. L. FEINER, M. SIMPSON, H. J. BROECKER, W. S. NOSHKIN, V. E. BOWEN, V. T. WILLIS, E.

O BRIEN, R. D.

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. UCHIDA, T. RAHMATI, H. S. O BRIEN, R. D.

OATES, W. H., JR.

07184 RADIATION EXPOSURE OVERVIEW; NUCLEAR POWER REACTORS AND THE POPULATION. OATES, W. H., JR.

ODEN, S.

06193 C-14 OCH TRITIUM ISOTOPERNAS FOERREKOMST OEVER SKANDINAVIEN UNDER SENARA AR MED TILLAMPENING INOM MARKLAERA OCH HYDROLOGI (THE OCCURRENCE OF C-14 AND TRITIUM THROUGHOUT SCANDINAVIA, WITH APPLICATIONS IN SOIL SCIENCE AND HYDROLOGY). ODEN, S.

ODUM, H. T.

04224 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES ATLANTIC-PACIFIC INTEROCEANIC CANAL; HYDROGEN BUDGET AND COMPARTMENTS IN THE RAIN FOREST AT EL VERDE, PUERTO RICO, PERTINENT TO CONSIDERATION OF TRITIUM METABOLISM, WITH APPENDIX BY SANFORD G. BLOOM, MATHEMATICAL FORMULATION OF THE HYDROGEN BUDGET MODEL. ODUM, H. T.

OESCHGER, H.

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. SIEGENTHALER, U. OESCHGER, H. TONGIORGI, E.

OESTLUND, G.

06878 STOCKHOLM NATURAL TRITIUM MEASUREMENTS I. OESTLUND, G. LUNDGREN, L. B.

OESTLUND, H. G.

06232 HURRICANE TRITIUM I- PRELIMINARY RESULTS ON HILDA 1964 AND BETSY 1965. OESTLUND, H. G.

06999 MODIFICATION OF ATMOSPHERIC TRITIUM AND WATER VAPOR BY LAKE TAHOE. OESTLUND, H. G. BERRY, E. X.

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. OESTLUND, H. G. RINKEL, M. O. ROTH, C.

07016 HURRICANE TRITIUM III; EVAPORATION OF SEA WATER IN HURRICANE PAITH 1966. OESTLUND, H. G.

07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSCS INTERCALIBRATION STATION. ROETHER, W. MUENNICH, K-O. OESTLUND, H. G.

OESTMANN, M. J.

06988 TRITIUM SOURCES AND RELEASE TO THE ENVIRONMENT. OESTMANN, M. J.

OHNO, S.

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND GROUND WATER. TAKAHASHI, T. NISHIDA, M. OHNO, S. HAMADA, T.

OKADA, S.

06803 KILLING OF CULTURED MAMMALIAN CELLS BY RADIOACTIVE DECAY OF TRITIATED THYMIDINE AT MINUS 196 DEGREES C. BURKI, H. J. OKADA, S.

OLIVER, R.

06859 THE RELATIVE BIOLOGICAL EFFECTIVENESS OF TRITIUM BETA PARTICLES COMPARED TO GAMMA RADIATION--ITS DEPENDENCE ON DOSE-RATE. HALL, E. J. OLIVER, R. BEDFORD, J. S.

OLIVE, P.

06213 OXYGENE-18 ET TRITIUM DANS LE BASSIN DEVIAN (OXYGEN-18 AND TRITIUM IN THE EVIAN BASIN). PONTES, J. C. LETOLLE, R. OLIVE, P. BLAVOUX, B.

06997 ETUDE PAR LE TRITIUM, DE LA DYNAMIQUE DES EAUX DU LEMAN (LAC DE GENEVE). (TRITIUM STUDY OF THE DYNAMICS OF THE WATERS OF LAC LEMAN (LAKE GENEVA). HUBERT, P. MEYBECK, M. OLIVE, P.

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. HUBERT, P. MARCE, A. OLIVE, P. SIWERTZ, E.

07032 PREMIERS RESULTATS SUR LA TENUE EN TRITIUM DES EAUX DU LAC LEMAN. (PRIMARY RESULTS OF THE TRITIUM CONTENT OF THE WATER OF LAKE LEMAN.) BLAVOUX, B. OLIVE, P.

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) BOSCH, B. GUEGAN, B. HUBERT, P. MARCE, A. OLIVE, P. SIWERTZ, E.

07174 ETUDE PAR LE TRITIUM DE MELANGE DES EAUX EN MILIEU LACUSTRE ET ESTUAIRE; APPLICATION AU LAC DE GENEVE ET A LA GIRONDE. (TRITIUM STUDY OF THE MIXING OF WATERS IN LAKES AND ESTUARIES, WITH PARTICULAR REFERENCE TO THE LAKE OF GENEVA AND THE GIRONDE.) MEYBECK, M. HUBERT, P. MARTIN, J. M. OLIVE, P.

OLSON, E. A.

06489 RADIOCARBON AND TRITIUM DATING. CHATTERS, R. M. OLSON, E. A.

ONEAL, D.

06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL FIELD STUDIES. WOODS, F. W. ONEAL, D.

ORLOB, G. T.

06254 AN EVALUATION OF GROUND-WATER TRACERS. KAUFMAN, W. J. ORLOB, G. T.

06364 MEASURING GROUND WATER MOVEMENT WITH RADIOACTIVE AND CHEMICAL TRACERS. KAUFMAN, W. J. ORLOB, G. T.

OSBORNE, R. V.

06207 ABSORPTION OF TRITIATED WATER VAPOUR BY PEOPLE. OSBORNE, R. V.

06226 MONITORING FOR TRITIUM AT LOW LEVELS. OSBORNE, R. V.

06389 STUDIES AND TECHNIQUES IN TRITIUM HEALTH PHYSICS AT CRNL. OSBORNE, R. V.

06418 PERFORMANCE OF AN AUTOMATIC ANALYSER FOR TRITIUM IN URINE. OSBORNE, R. V.

06776 INTAKE OF TRITIUM WHEN SKIN IS SPLASHED WITH TRITIATED WATER. OSBORNE, R. V.

OSLOOND, J. H.

06787 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. OSLOOND, J. H. NEWCOMB, D. L.

06797 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. OSLOOND, J. H.

06798 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. OSLOOND, J. H. SCHMALZ, B. L.

06799 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO. OSLOOND, J. H. NEWCOMB, D. L.

06834 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION. OSLOOND, J. H.

PALOC, H.

07171 CONTRIBUTION DES MESURES ISOTOPIQUES A L'ETUDE DE LA FONTAINE DE VAUCLUSE. (CONTRIBUTION OF ISOTOPE MEASUREMENTS TO THE STUDY OF THE FONTAINE DE VAUCLUSE.) MARGRITA, R. EVIN, J. PLANDRIN, J. PALOC, H.

PARHAM, A. G.

06842 MEASUREMENTS OF THE WATER VAPOR, TRITIUM AND CARBON-14 CONTENT OF THE MIDDLE STRATOSPHERE OVER SOUTHERN ENGLAND. BROWN, P. GOLDSMITH, P. GREEN, H. F. HOLT, A. PARHAM, A. G.

PARKER, P. L.

06208 RADIOACTIVE WASTES FROM FUSION REACTORS. PARKER, P. L.

06366 ENGINEERING, ECONOMIC, AND SAFETY EVALUATIONS. COWSER, K. B. PARKER, P. L. TADMOR, J. BOGGLY, W. J., JR. JACOBS, G. H. LEWELLYN, G. H. DYSLIN, D. A.

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA. SHAIKH, M. U. JACOBS, D. G. PARKER, P. L.

PARKER, H. M.

07156 RADIOLOGICAL SCIENCES DEPARTMENT RESEARCH AND DEVELOPMENT ACTIVITIES FOR OCTOBER-DECEMBER 1951. QUARTERLY PROGRESS REPORT. PARKER, H. M.

PARSONS, P. J.

06333 THE MOVEMENT OF TRITIUM FROM THE CHALK RIVER LIQUID DISPOSAL AREA. PARSONS, P. J.

06627 THE SAFE BURIAL OF HIGH-LEVEL FISSION PRODUCT SOLUTIONS INCORPORATED INTO GLASS. MERRITT, W. F. PARSONS, P. J.

PATIGNY, P.

06946 DETECTION ET MESURE DE LA CONTAMINATION DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF THE CONTAMINATION OF GASES AND VAPORS). PATIGNY, P.

PATZER, R. G.

06383 EXPOSURE-DOSE RESEARCH FOR RADIONUCLIDES IN NATURAL GAS. MCNEELIS, D. N. PATZER, R. G.

07045 RADIATION DOSE FROM NON-EXCHANGEABLE TRITIUM IN RATS AFTER TRITIUM OXIDE INGESTION. PATZER, R. G.

PAYNE, B. R.

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF TRITIUM SINCE 1961. THATCHER, L. L. PAYNE, B. R. CAMERON J. P.

06216 SEASONAL VARIATIONS IN THE TRITIUM CONTENT OF GROUNDWATERS OF THE VIENNA BASIN, AUSTRIA. DAVIS, G. H. PAYNE, B. R. DINCER, T. FLORKOWSKI, T. GATTINGER T.

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO METEOROLOGY AND HYDROLOGY. FINAL REPORT. PAYNE, B. R. THATCHER, L. L. CAMERON, J. P. FLORKOWSKI, T.

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. SCHELL, W. R. SAUZAY, G. PAYNE, B. R.

07034 INTERLABORATORY COMPARISON OF ANALYSIS OF TRITIUM IN NATURAL WATERS. FLORKOWSKI, T. PAYNE, B. R. SAUZAY, G.

07168 VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. DINCER, T. MARTINEC, J. YEN, C. K. PAYNE, B. R.

PEAKER, M.

06869 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). PEAKER, M. WRIGHT, A. PEAKER, S. J. PHILLIPS, J. G.

PEAKER, S. J.

06869 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). PEAKER, M. WRIGHT, A. PEAKER, S. J. PHILLIPS, J. G.

PEIRSON, D. H.

07074 RADIOACTIVE FALLOUT IN AIR AND RAIN-RESULTS TO THE MIDDLE OF 1969. CAMBRAY, R. S.

FISHER, E. M. R. BROOKS, W. L. PEIRSON, D. H.

PERKINS, B. C.

07064 RADIATION SAFETY PROBLEMS WITH THE DOUBLE ISOTOPE ASSAY OF ALDOSTERONE. LEBLANC, A. D. JOHNSON, P. C. PERKINS, B. C.

PERKINS, R. W.

04316 COSMIC-RAY PRODUCED RADIONUCLIDES IN THE ENVIRONMENT. PERKINS, R. W. NIELSEN, J. M.

PERRI, G. C.

06280 THE FRACTIONATION OF HYDROGEN ISOTOPES IN BIOLOGICAL SYSTEMS. EIDINOFF, M. L. PERRI, G. C. KNOLL, J. E. MARANO, B. J. ARNHHEIM, J.

PERSON, S.

06248 COMPARATIVE KILLING EFFICIENCIES FOR DECAYS OF TRITIATED COMPOUNDS INCORPORATED INTO E. COLI. PERSON, S.

07125 LETHAL AND MUTAGENIC EFFECTS OF TRITIUM DECAY PRODUCED BY TRITIATED COMPOUNDS INCORPORATED INTO BACTERIA AND BACTERIOPHAGES. PERSON, S.

07153 CYTOSINE TO THYMINE TRANSITIONS FROM DECAY OF CYTOSINE-5-3 IN BACTERIOPHAGE S13. FUNK, P. PERSON, S.

PETERSEN, D. F.

06337 THE GROWTH OF MONODISPERSE POPULATIONS OF MAMMALIAN CELLS EXPOSED TO INTERNAL BETA IRRADIATION. PETERSEN, D. F.

PETERSON, H. T., JR.

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS. WEAVER, C. L. HARWARD, E. D. PETERSON, H. T., JR.

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES. PETERSON, H. T., JR. MARTIN, J. E. WEAVER, C. L. HARWARD, E. D. 07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. MASON, B. J. WIPPER, W. J.

PETERSON, J. I.

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. PETERSON, J. I. WAGNER, P. SIEGEL, S. NIXON, W.

06607 A CARBON DIOXIDE COLLECTION ACCESSORY FOR THE RAPID COMBUSTION APPARATUS FOR PREPARATION OF BIOLOGICAL SAMPLES FOR LIQUID SCINTILLATION ANALYSIS. PETERSON, J. I.

PETROVICH, T. K.

07042 TOXICITY OF TRITIUM OXIDE. ZAKUTINSKII, D. I. NAKHIL NITSKAYA, Z. N. PETROVICH, T. K.

PETRUCHENIA, M. V.

06860 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. MCMAHUS, W. R. PRICHARD, R. K. BAKER, C. PETRUCHENIA, M. V.

PHELPS, P.

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN PLOWSHARE EVENTS. SHORE, B. ANSPAUGH, L. CHERTOK, R. GOPMAN, J. HARRISON, P. HEPT, R. KORANDA, J. NG, Y. PHELPS, P. POTTER, G. TAMPLIN, A.

PHELPS, P. L.

06488 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKY, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.

PHILLIPS, J. G.

06869 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). PEAKER, M. WRIGHT, A. PEAKER, S. J. PHILLIPS, J. G.

PHILLIPS, R. E.

06274 SELF-DIFFUSION OF TRITIATED WATER IN MONTMORILLONITE AND KAOLINITE CLAY. PHILLIPS, R. E. BROWN, D. A.

PHILLIPS, T. L.

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION STUDIES. WACHTEL, L. W. PHILLIPS, T. L. COLE, L. J.

PINSON, E. A.

06327 INCORPORATION OF TRITIUM INTO THE ORGANIC COMPONENTS OF VARIOUS TISSUES OF THE MOUSE. PINSON, E. A.

06328 THE ABSORPTION OF INGESTED TRITIUM WATER AND THE WATER DILUTION VOLUME OF MAN. PINSON, E. A.

06424 THE BODY ABSORPTION, DISTRIBUTION, AND EXCRETION OF TRITIUM IN MAN AND ANIMALS. PINSON, E. A.

06496 PHYSIOLOGY AND TOXICOLOGY OF TRITIUM IN MAN. PINSON, E. A. LANGHAM, W. H.

06635 ABSORPTION OF HTO AND HTO VAPOR THROUGH THE SKIN OF MAN. PINSON, E. A.

06636 THE SPECIFIC ACTIVITY OF TRITIUM IN THE ORGANIC COMPONENTS OF THE SKIN AND FAT OF MAN FOLLOWING EIGHT MONTHS CHRONIC EXPOSURE TO HTO IN BODY FLUIDS. PINSON, E. A.

06924 WATER EXCHANGES AND BARRIERS AS STUDIED BY THE USE OF HYDROGEN ISOTOPES. PINSON, E. A.

PLANET, J.

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIEE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) PLANET, J. UZZAN, G. LE GRAND, J.

POLACH, H. A.

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. TAYLOR, C. B. POLACH, H. A. RAPTER, T. A.

POLZER, W. L.

06946 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL. SCHMALZ, B. L. POLZER, W. L.

PORETTI, G.

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ZUPPINGER, A. PORETTI, G. SCHWARZ, K. ZAORALEK, P. AEBI, H.

PORETTI, G. G.

06858 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). ZUPPINGER, A. PORETTI, G. G. ZAORALEK, P. AEBI, H.

PORTER, C. R.

06463 TRITIUM IN SURFACE WATERS OF THE UNITED STATES, 1966. MOGHISSI, A. A. PORTER, C. R.

06676 TRITIUM CONCENTRATION IN PRECIPITATION, 1967-1968. MOGHISSI, A. A. PORTER, C. R.

PORTER, J. W.

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY GROWING CHLORELLA PYRENOIDOSA CELLS. WEINBERGER, D. PORTER, J. W.

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. PORTER, J. W. WATSON, M. S.

06393 THE EFFECT OF TRITIUM OXIDE ON SOME SYNTHETIC PROCESSES OF CHLORELLA PYRENOIDOSA. PORTER, J. W. KNAUSS, H. J.

06394 INCORPORATION OF HYDROGEN ISOTOPES INTO VARIOUS FRACTIONS OF RAPIDLY GROWING ALGAE. PORTER, J. W.

PORTER, S. W., JR.

06439 MEASUREMENT OF TRITIUM SURFACE CONTAMINATION. PORTER, S. W., JR. SLABACK, L. A., JR.

POSEY, C. D.

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. MOGHISSI, A. A. TOEBBER, E. D. REGNIER, J. E. CARTER, M. W. POSEY, C. D.

POSTLE, G. L.

06626 TRANSPORT OF RADIONUCLIDES BY GROUND WATER-SOME THEORETICAL ASPECTS. LYNCH, E. J. DAVIS, S. N. POSTLE, G. L.

POTTER, G.

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN FLOWSHARE EVENTS. SHORE, B. ANSPAUGH, L. CHERTOK, R. GOPMAN, J. HARRISON, P. HEPT, R. KORANDA, J. NG, Y. PHELPS, P. POTTER, G. TAMPLIN, A.

POTTER, G. B.

06486 BIO-MEDICAL DIVISION PRELIMINARY REPORT FOR PROJECT SCHOONER. ANSPAUGH, L. R. CHERTOK, R. J. CLEGG, B. R. COHEN, J. J. GRABSKA, R. J. HARRISON, P. L. HEPT, R. E. HOLLADAY, G. KORANDA, J. J. NG, Y. C. PHELPS, P. L. POTTER, G. B.

PREVO, C. T.

07071 INSTRUMENTATION FOR MONITORING OF KR-85 AND H-3 IN NATURAL GAS. PREVO, C. T. SANTOMASSIMO, V. C.

PRICHARD, R. K.

06860 ESTIMATION OF WATER CONTENT BY TRITIUM DILUTION OF ANIMALS SUBJECTED TO RAPID LIVE-WEIGHT CHANGES. MCMAHON, W. R. PRICHARD, R. K. BAKER, C. PETRUCHENIA, M. V.

PRINCE, J. R.

06818 A METHOD FOR EVALUATING SURFACE CONTAMINATION OF SOFT BETA EMITTERS. PRINCE, J. R. WANG, C. H.

RACHMELER, M.

07088 THE EFFECTS OF TRITIUM DECAY ON DNA. PROGRESS REPORT FOR THE PERIOD 1 JANUARY- 31 DECEMBER 1967. RACHMELER, M.

RAPTER, T. A.

06630 REPORT ON THE WORK OF THE INSTITUTE OF NUCLEAR SCIENCES, ANNUAL REPORT NO. 4, MARCH 1, 1961 - FEBRUARY 28, 1962. RAPTER, T. A.

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF NUCLEAR SCIENCES, NEW ZEALAND. TAYLOR, C. B. POLACH, H. A. RAPTER, T. A.

RAHMATI, H. S.

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. UCHIDA, T. RAHMATI, H. S. O BRIEN, R. D.

RAINES, G. E.

06381 ECOLOGICAL TRANSFER MECHANISMS - TERRESTRIAL. MARTIN, W. B. RAINES, G. E. BLOOM, S. G. LEVIN, A. A.

07188 KINETIC MODEL STUDY OF HYDROGEN FLOW THROUGH THE EL VERDE FOREST SYSTEM. BLOOM, S. G. RAINES, G. E.

RALEY, R. B.

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. WINCHELL, H. S. VIMOKESANT, S. L. RALEY, R. B.

RAMA

05164 THE MEASUREMENT OF TRITIUM ACTIVITY IN NATURAL WATERS II CHARACTERISTICS OF GLOBAL FALLOUT OF H-3 AND SR-90. ATHAVALE, R. N. LAL, D. RAMA

- 06864 CHARACTERISTICS OF GLOBAL TROPOSPHERIC MIXING BASED ON MAN-MADE C-14, H-3, AND SR-90
LAL, D RAMA
- RANEY, F
- 06368 MOVEMENT AND DISTRIBUTION OF THO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA RANEY, F VAADIA, Y
- 06875 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION RANEY, F VAADIA, Y
- RARRICK, H L
- 06346 AN APPROXIMATION OF RADIATION DOSE RESULTING FROM AN ACCIDENTAL RELEASE OF TRITIUM GAS RARRICK, H L TUCKER, G B JR
- 06817 REVIEW OF SANDIA SYMPOSIUM ON INSTRUMENTATION, EXPERIENCE, AND PROBLEMS IN HEALTH PHYSICS TRITIUM CONTROL RARRICK, H L
- RAVOIRE, J
- 06976 TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA RAVOIRE, J LORIUS, C ROBERT, J ROTH, E
- REDISKE, J H
- 06344 COMPARATIVE METABOLISM OF PROTIUM, DEUTERIUM AND TRITIUM IN THE BEAN PLANT REDISKE, J H CLINE, J F
- REEDER, H O
- 06218 TRITIUM CONTENT AS AN INDICATOR OF AGE AND MOVEMENT OF GROUND WATER IN THE ROSWELL BASIN, NEW MEXICO REEDER, H O
- REGNIER, J E
- 06458 LOW-LEVEL COUNTING BY LIQUID SCINTILLATION I TRITIUM MEASUREMENT IN HOMOGENEOUS SYSTEMS MOGHISSI, A A KELLEY, H L REGNIER, J E CARTER, M W
- 06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING MOGHISSI, A A TOERBER, E D REGNIER, J E CARTER, M W POSEY, C D
- REICHERT, S O
- 06853 RADIONUCLIDES IN GROUNDWATER AT THE SAVANNAH RIVER PLANT WASTE DISPOSAL FACILITIES REICHERT, S O
- REICHLER, D E
- 06786 TURNOVER AND CONCENTRATION OF RADIONUCLIDES IN FOOD CHAINS REICHLER, D E DUNAWAY, P B NELSON, D J
- REINIG, W C
- 06439 CONTROL OF TRITIUM HEALTH HAZARDS AT THE SAVANNAH RIVER PLANT REINIG, W C ALBENESIUS E L
- 06631 ASSESSMENT OF TRITIUM IN MAN REINIG, W C SANDERS, S M, JR
- 07180 ASSESSMENT OF TRITIUM IN MAN SANDERS, S M, JR REINIG, W C
- REISENAUER, A E
- 06461 FISSION PRODUCT TRITIUM IN SEPARATIONS WASTES AND IN THE GROUND WATER HANEY, W A BROWN, D J REISENAUER, A E
- REITINGER, J
- 07175 COMPARISON OF HYDROLOGICAL AND MATHEMATICAL METHODS IN ANALYSIS OF TRITIUM DATA KOENIG, R REITINGER, J
- RICHARDS, H J
- 07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM SMITH, D B WEARN, P L RICHARDS, H J ROWE, P C
- RICHMOND, C R
- 06192 ESTIMATION OF MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOISOTOPES IN WATER (MPC)W
- FROM INTERSPECIES CORRELATIONS I COMPARISON OF ESTIMATED AND MEASURED VALUES FOR ZINC-65 AND TRITIUM RICHMOND, C R FURCHNER, J E LANGHAM, W H
- 06219 VOLUME AND TURNOVER OF BODY WATER IN DIPodomys DESERTI WITH TRITIATED WATER RICHMOND, C R TRUJILLO, T T MARTIN, D W
- 06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS RICHMOND, C R LANGHAM, W H TRUJILLO, T T
- RIEDER, S V
- 06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE ROSE, I A RIEDER, S V
- 06437 THE MECHANISM OF THE TRIOSEPHOSPHATE ISOMERASE REACTION RIEDER, S V ROSE, I A
- RINKEL, M O
- 07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM OBSTLUND, H G RINKEL, M O ROTH, C
- ROBERTSON, J G
- 06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING STATION, IDAHO, 1966 BARRACLOUGH, J T TEASDALE, W E ROBERTSON, J G JENSEN, R G
- ROBERT, J
- 06976 TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA RAVOIRE, J LORIUS, C ROBERT, J ROTH, E
- ROBINSON, J
- 06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY SEDLET, J ROBINSON, J FAIRMAN, W
- ROBISON, W L
- 07100 ASSESSMENT OF POTENTIAL BIOLOGICAL HAZARDS FROM PROJECT RULISON ROBISON, W L ANSPAUGH, L R
- ROEDER, J R
- 07178 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION LICENSEES INTERNAL EXPOSURE EXPERIENCE, 1957-1966 ROEDER, J R
- ROETHER, W
- 04136 DER ANSTIEG DES TRITIUMGEHALTES IM ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN SINCE 1960) BHHALT, D ROETHER, W STICH, W
- 04944 A COMPARISON OF CARBON-14 AND TRITIUM AGES OF GROUNDWATER MUENNICH, K O ROETHER, W
- 06210 DATING OF GROUNDWATER WITH TRITIUM AND C-14 MUENNICH, K O ROETHER, W THILO, L
- 06227 TRANSFER OF BOMB C-14 AND TRITIUM FROM THE ATMOSPHERE TO THE OCEAN, INTERNAL MIXING OF THE OCEAN ON THE BASIS OF TRITIUM AND C-14 PROFILES MUENNICH, K O ROETHER, W
- 06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED BY MEANS OF HYDROGEN ISOTOPES ZIMMERMANN, U MUENNICH, K O ROETHER, W
- 06657 TRITIUMGEHALTE IM WASSER TIEFERER GRUNDWASSERSTOCKWERKE (TRITIUM CONTENT OF WATER IN DEEP GROUNDWATER BASINS) MATTHESS, G THILO, L ROETHER, W MUENNICH, K O
- 06965 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN ISRAEL, G W ROETHER, W SCHUMANN, G
- 07013 TRITIUM AND DEUTERIUM CONTENT OF ATMOSPHERIC HYDROGEN BHHALT, D ISRAEL, G ROETHER, W STICH, W
- 07021 TRITIUM PROFILE AT THE NORTH PACIFIC (1969) GEOSICS INTERCALIBRATION STATION ROETHER, W MUENNICH, K-O OBSTLUND, H G
- 07133 ESTIMATING THE TRITIUM INPUT TO GROUNDWATER FROM WINE SAMPLES, GROUNDWATER AND DIRECT RUN-OFF CONTRIBUTION TO CENTRAL EUROPEAN SURFACE WATERS ROETHER, W

ROHWER, P. S.

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE I. COWSER, K. E. KAYE, S. V. ROHWER, P. S. SNYDER, W. S. STRUXNESS, E. G.

06251 AGE-DEPENDENT MODELS FOR ESTIMATING INTERNAL DOSE IN FEASIBILITY EVALUATIONS OF PLOWSHARE EVENTS, PLOWSHARE RESEARCH AND DEVELOPMENT PROGRESS REPORT, OCTOBER 1, 1967-APRIL 1, 1968. ROHWER, P. S. KAYE, S. V.

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. ROHWER, P. S. KAYE, S. V. COWSER, K. E. SNYDER, W. S. STRUXNESS, E. G.

07162 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES. PHASE III. KAYE, S. V. ROHWER, P. S.

ROOTH, C.

07015 TRITIUM IN THE EQUATORIAL ATLANTIC CURRENT SYSTEM. OSTLUND, H. G. RINKEL, M. O. ROTH, C.

ROSE, D. J.

07063 HAZARDS OF TRITIUM FROM CONTROLLED FUSION. ROSE, D. J.

ROSE, I. A.

06436 THE MECHANISM OF ACTION OF MUSCLE ALDOLASE. ROSE, I. A. RIEDER, S. V.

06437 THE MECHANISM OF THE TRIOSEPHOSPHATE ISOMERASE REACTION. RIEDER, S. V. ROSE, I. A.

ROSS, D. I.

06266 USE OF TRITIUM FROM SPENT URANIUM FUEL ELEMENTS AS A GROUND-WATER TRACER. HORTON, J. H. ROSS, D. I.

ROSS, D. M.

07179 A STATISTICAL SUMMARY OF UNITED STATES ATOMIC ENERGY COMMISSION CONTRACTORS' INTERNAL EXPOSURE EXPERIENCE, 1957-1966. ROSS, D. M.

ROTH, E.

06976 TRITIUM CONTENT IN A FIRN CORE FROM ANTARCTICA. RAVOIRE, J. LORUS, C. ROBERT, J. ROTH, E.

ROULIN, J.

06939 CONTAMINATION PAR LE TRITIUM A PARTIR DE L'ATMOSPHERE (ATMOSPHERIC TRITIUM CONTAMINATION). ROULIN, J.

ROWE, P. C.

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. SMITH, D. B. WEARN, P. L. RICHARDS, H. J. ROWE, P. C.

ROWLAND, P. S.

06375 SYNTHESIS WITH TRITIUM. ROWLAND, P. S.

07020 AN ADDITIONAL MEASUREMENT OF THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN OF 1949. FIREMAN, E. L. ROWLAND, P. S.

RUBINI, J. R.

06923 THE METABOLISM AND FATE OF TRITIATED THYMIDINE IN MAN. RUBINI, J. R. CRONKITE, E. P. BOND, V. P. FLIEDNER, T. M.

RUBIN, M.

06994 DATING DESERT GROUND WATER. THATCHER, L. RUBIN, M. BROWN, G. P.

RUBY, P.

06215 TRITIUM ET HYDROGEOLOGIE; ETUDES ET MESURES EFFECTUEES AU CENTRE D'ETUDES NUCLEAIRES DE GRENOBLE (TRITIUM AND HYDROGEOLOGY; INVESTIGATIONS AND MEASUREMENTS CARRIED OUT AT THE GRENOBLE

NUCLEAR RESEARCH CENTRE). GUIZERIX, J. MARGRITA, R. LAUNAY, M. RUBY, P.

RUSSELL, R. S.

04147 RADIOACTIVITY AND HUMAN DIET. RUSSELL, R. S.

SALOMON, M.

06249 ISOTOPE EFFECTS IN MIXTURES OF LIQUID H₂O AND T₂O. SALOMON, M.

SAMUELS, L. D.

06775 TOXICOLOGICAL STUDIES OF TRITIATED THYMIDINE. SAMUELS, L. D. KISIELESKI, W. E.

SANDERS, S. M., JR.

06631 ASSESSMENT OF TRITIUM IN MAN. REINIG, W. C. SANDERS, S. M., JR.

07180 ASSESSMENT OF TRITIUM IN MAN. SANDERS, S. M., JR. REINIG, W. C.

SANTOMASSIMO, V. C.

07071 INSTRUMENTATION FOR MONITORING OF KR-85 AND H-3 IN NATURAL GAS. PREVO, C. T. SANTOMASSIMO, V. C.

SARGENT, T. W.

06428 REPORT OF THE BIOASSAY PROGRAMS; JULY 1968 THROUGH JUNE 1969. SARGENT, T. W. WRIGHT, S. R. BUCKLEY, B. C. LOW-BEER, A. DE G.

SAUZAY, G.

06269 TRITIUM PROFILES IN TWO FIRN CORES FROM ALPINE GLACIERS AND TRITIUM CONTENT IN PRECIPITATION IN THE ALPINE AREA. AMBACH, W. EISNER, H. SAUZAY, G.

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. SCHELL, W. R. SAUZAY, G. PAYNE, B. R.

07034 INTERLABORATORY COMPARISON OF ANALYSIS OF TRITIUM IN NATURAL WATERS. FLORKOWSKI, T. PAYNE, B. R. SAUZAY, G.

SAX, N. I.

06464 TRITIATED MOISTURE IN THE ATMOSPHERE SURROUNDING A NUCLEAR FUEL REPROCESSING PLANT. DALY, J. C. MANCHESTER, A. V. GABAY, J. J. SAX, N. I.

06616 A SIMPLIFIED TECHNIQUE FOR STACK DISPERSION MAPPING WITH TRITIUM. GABAY, J. J. SAX, N. I.

07142 A TECHNIQUE FOR DEMONSTRATING C-MAX OF A PLUME USING TRITIATED MOISTURE. SAX, N. I. DALY, J. C. GABAY, J. J.

07177 A SURVEILLANCE TECHNIQUE FOR TRITIATED MOISTURE IN THE ATMOSPHERE. SAX, N. I. GABAY, J. J.

SCALP, M. R.

06267 AQUIFER STORAGE DETERMINATION BY RADIOTRACER TECHNIQUES. KEELEY, J. W. SCALP, M. R.

SCHAAD, L. J.

07102 A RELATION BETWEEN PROTIUM/TRITIUM AND PROTIUM/DEUTERIUM ISOTOPE EFFECTS. SWAIN, G. C. SCHAAD, L. J.

SHELL, W. R.

06791 INVESTIGATION AND COMPARISON OF RADIOGENIC ARGON, TRITIUM AND CARBON-14 IN ATMOSPHERIC RESERVOIRS. SHELL, W. R.

06967 TRITIUM INJECTION AND CONCENTRATION DISTRIBUTION IN THE ATMOSPHERE. SHELL, W. R. SAUZAY, G. PAYNE, B. R.

SCHUEERMANN, W.

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL NUCLEUS AFTER INCORPORATION OF H-3- OR C-14-LABELLED THYMIDINE. TAEGER, K. SCHUEERMANN, W.

SCHIPPER, L M

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN HUMAN LEUKEMIA GREENBERG, M L CHANANA, A D CRONKITE, E P SCHIPPER, L M STRICKMANS, P A

SCHMALZ, B L

06618 ENVIRONMENTAL TRITIUM STUDIES AT THE NATIONAL REACTOR TESTING STATION HAWKINS, D B SCHMALZ, B L

06798 RADIOACTIVE WASTE DISPOSAL DATA FOR THE NATIONAL REACTOR TESTING STATION, IDAHO OSLOOND, J H SCHMALZ, B L

06646 TRITIATED WATER DISTRIBUTION IN UNSATURATED SOIL SCHMALZ, B L POLZER, W L

07039 RETENTION AND MIGRATION OF RADIOACTIVE ISOTOPES IN THE LITHOSPHERE AT THE NATIONAL REACTOR TESTING STATION-IDAHO SCHMALZ, B L KEYS, W S

SCHNIEDEN, H

06202 ESTIMATION OF TOTAL BODY WATER (VIRTUAL TRITIUM SPACE) IN THE RAT, CAT, RABBIT, GUINEA-PIG AND MAN, AND OF THE BIOLOGICAL HALF-LIFE OF TRITIUM IN MAN FOY, J M SCHNIEDEN, H

SCHOLZ, T G

06970 WATER VAPOR, MOLECULAR HYDROGEN, METHANE, AND TRITIUM CONCENTRATIONS NEAR THE STRATOPAUSE SCHOLZ, T G BHHALT, D H HEIDT, L E MARTELL, E A

SCHULZE, E -P

07023 VERWENDUNG VON TRITIIERTEM WASSER (THO) ZUR PORTLAUFENDEN REGISTRIERUNG DES TRANSPIRATIONSVORLAUFES BEI INSEKTEN (USE OF TRITIATED WATER FOR CONTINUOUS REGISTRATION OF INSECT TRANSPIRATION) KLOFT, W SCHULZE, E -P

SCHUMANN, G

06965 SEASONAL VARIATIONS OF BOMB-PRODUCED TRITIUM IN RAIN ISRAEL, G W ROETHER, W SCHUMANN, G

SCHWARZ, K

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION ZUPPINGER, A PORETTI, G SCHWARZ, K ZAORALEK, P AEBI, H

SCHWIBACH, J

07135 ZUR FRAGE DER FESTSETZUNG HOECHST ZUGELASSENER WERTE BEI DER ABLEITUNG TRITIUMHALTIGER ABWASSER (THE QUESTION OF DEFINING THE HIGHEST PERMISSIBLE VALUES FOR THE RELEASE OF TRITIUM-CONTAINING WASTE WATER) SCHWIBACH, J

SCHWIND, S B

06934 TRITIUM (H-3), A BIBLIOGRAPHY OF UNCLASSIFIED LITERATURE CROXTON, P E SCHWIND, S B

SCULLY, N J

06224 RADIATION EFFECTS OF CARBON-14 AND TRITIUM ON GROWTH OF SOYBEANS CHORNEY, W SCULLY, N J DUTTON, H J

SEDLER, J

06191 A COBALT AND A TRITIUM INCIDENT AT ARGONNE NATIONAL LABORATORY SEDLER, J ROBINSON, J FAIRMAN, W

07104 ENVIRONMENTAL RADIOACTIVITY AT ARGONNE NATIONAL LABORATORY, REPORT FOR 1964 SEDLER, J IWAMI, P S

SELLSCHOP, J P P

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA VERHAGEN, B TH SELLSCHOP, J P P JENNINGS, C M H

SEYMOUR, A H

07117 COLUMBIA RIVER STUDIES, ANNUAL PROGRESS REPORT, 1968-1969 SEYMOUR, A H

SHAIKH, M U

06933 A STUDY OF THE MOVEMENT OF RADIONUCLIDES THROUGH SATURATED POROUS MEDIA SHAIKH, M U JACOBS, D G PARKER, P L

SHAL NOVA, G A

07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE SHAL NOVA, G A ZHURAVLEV, V P

07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES SHAL NOVA, G A ZHURAVLEV, V P

07068 STATE OF AUTOINFECTION RESISTANCE IN MICE TREATED WITH TRITIUM OXIDE SHAL NOVA, G A ZHURAVLEV, V P KUZ MINA, T D

SHALNOV, M I

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS BOGDANOV, K M SHALNOV, M I SHTUKKENBERG, I U M

SHARPENSEEL, H W

06494 STUDIES WITH C-14- AND H-3-LABELLED HUMIC ACIDS AS TO THE MODE OF LINKAGE OF THEIR AMINO-ACID FRACTIONS AND WITH S-35-0(4), S-35-METHIONINE AND S-35-CYSTINE REGARDING THE SULPHUR TURNOVER IN HUMIC ACID AND SOIL SHARPENSEEL, H W

SHARP, J V A

06811 ENVIRONMENTAL TRITIUM IN CONJUNCTIVE USE STUDIES OF CONTINENTAL RIVER SYSTEMS SHARP, J V A WESTPHAL, J

SHEEHAN, W E

06596 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1967 ANDERSON, H P SHEEHAN, W E

06597 ENVIRONMENTAL MONITORING REPORT, JULY-DECEMBER 1966 AND 1966 SUMMARY ANDERSON, H P SHEEHAN, W E

06790 ENVIRONMENTAL MONITORING REPORT- JULY-DECEMBER 1969 AND 1969 SUMMARY ANDERSON, H P SHEEHAN, W E

06832 ENVIRONMENTAL MONITORING REPORT, JANUARY - JUNE, 1968 ANDERSON, H P SHEEHAN, W E

06883 ENVIRONMENTAL MONITORING REPORT- JULY - DECEMBER 1967 AND 1967 SUMMARY ANDERSON, H P SHEEHAN, W E

49 ENVIRONMENTAL MONITORING REPORT, JANUARY-JUNE 1969 ANDERSON, H P SHEEHAN, W E

SHEN, S P

06847 TRITIUM CONTENT OF ANTARCTIC SNOW SHEN, S P KORPP, S A NEUBURG, H A C

SHER, R

07065 HALF-LIVES OF H-3 AND PU-238 SHER, R

SHLEIN, B

07053 AN ESTIMATE OF RADIATION DOSES RECEIVED BY INDIVIDUALS LIVING IN THE VICINITY OF A NUCLEAR FUEL REPROCESSING PLANT IN 1968 SHLEIN, B

SHORE, B

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES PRODUCED IN FLOWSHARE EVENTS SHORE, B ANSPAUGH, L CHERTOK, R GOPMAN, J HARRISON, P HEPT, R KORANDA, J NG, Y PHELPS, P POTTER, G TAMPLIN, A

SHTUKKENBERG, YU M

06874 THE MAXIMUM PERMISSIBLE CONCENTRATION OF GASEOUS TRITIUM IN THE AIR OF WORKING PREMISES SHTUKKENBERG, YU M ZHURAVLEV, V P

SHUTKENBYERG, I. U. M.

06783 INVESTIGATION OF TRITIUM OXIDE METABOLISM IN ORGANISMS. BOGDANOV, K. M. SHALNOV, M. I. SHUTKENBYERG, I. U. M.

SHULL, R. D.

06367 RADIOACTIVITY TRANSPORT IN WATER - SIMULATION OF SUSTAINED RELEASES TO SELECTED RIVER ENVIRONMENTS. SHULL, R. D. GLOYNA, E. P.

SIEGEL, S.

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. PETERSON, J. I. WAGNER, F. SIEGEL, S. NIXON, W.

SIEGENTHALER, U.

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. SIEGENTHALER, U. OESCHGER, H. TONGIORGI, E.

SIMPSON, H. J.

06386 LAKE TAHOE FALLOUT STUDY. SIMPSON, H. J.

06966 TRITIUM IN CRATER LAKE, OREGON. SIMPSON, H. J.

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. VOLCHOK, H. L. FEINER, M. SIMPSON, H. J. BROECKER, W. S. NOSHKIN, V. B. BOWEN, V. T. WILLIS, E.

SIMPSON, J. A.

07154 THE PRODUCTION OF TRITONS AND C-14 IN THE TERRESTRIAL ATMOSPHERE BY SOLAR PROTONS. SIMPSON, J. A.

SIWERTZ, E.

07026 ETUDE PAR LE TRITIUM DE LA DYNAMIQUE DES EAUX SOUTERRAINES. HUBERT, P. MARCE, A. OLIVE, P. SIWERTZ, E.

07033 LES CYCLES ATMOSPHERE-HYDROSPHERE DU TRITIUM SOUS LES LATITUDES MOYENNES DEPUIS 1952. (ATMOSPHERE-HYDROSPHERE CYCLES OF TRITIUM UNDER MIDDLE LATITUDES SINCE 1952.) BOSCH, B. GUEGAN, B. HUBERT, P. MARCE, A. OLIVE, P. SIWERTZ, E.

SKAUBEN, D. M.

06789 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS, FINAL REPORT, JUNE 1, 1962 THROUGH JULY 31, 1964. SKAUBEN, D. M.

06792 THE EFFECTS OF TRITIUM OXIDE ON AQUATIC ORGANISMS, SUMMARY AND PROGRESS REPORT, JUNE 1, 1962 THROUGH JULY 31, 1963. SKAUBEN, D. M.

SLABACK, L. A., JR.

06439 MEASUREMENT OF TRITIUM SURFACE CONTAMINATION. PORTER, S. W., JR. SLABACK, L. A., JR.

SLIZEWICZ, P.

0695L LE TRITIUM UTILISE COMME TRACEUR EN GEOPHYSIQUE (TRITIUM USED AS A TRACER IN GEOPHYSICS). SLIZEWICZ, P.

SMITH, C. F.

06474 STUDIES OF CHEMICAL AND RADIOCHEMICAL COMPOSITION OF NATURAL GAS FROM THE CAVITY PRODUCED BY THE PROJECT GASBUGGY NUCLEAR SHOT. SMITH, C. F. MOMYER, P. F.

06829 PROJECT GASBUGGY; GAS QUALITY ANALYSIS AND EVALUATION PROGRAM TABULATION OF RADIOCHEMICAL AND CHEMICAL ANALYTICAL RESULTS. SMITH, C. F.

06880 GASBUGGY; GAS QUALITY INVESTIGATION PROGRAM, STATUS REPORT. SMITH, C. F. MOMYER, P. F.

06927 PRE-OPERATIONAL REPORT, PROJECT GASBUGGY-GAS QUALITY ANALYSIS AND EVALUATION PROGRAM. SMITH, C. F.

07092 GAS QUALITY ANALYSIS AND EVALUATION PROGRAM FOR PROJECT GASBUGGY. SMITH, C. F.

07118 BEHAVIOR OF RADIONUCLIDES IN NUCLEAR GAS STIMULATION TECHNIQUES. SMITH, C. F.

SMITH, D. B.

04934 A COMPARISON OF RADIOISOTOPE METHODS FOR RIVER FLOW MEASUREMENT. CLAYTON, C. G. SMITH, D. B.

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. SMITH, D. B. WEARN, P. L. RICHARDS, H. J. ROWE, P. C.

SMITH, G. N.

06250 THE OXIDATION OF MOLECULAR TRITIUM IN MAMMALS. SMITH, G. N. EMERSON, R. J. TEMPLE, L. A. GALBRAITH, T. W.

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT. SMITH, G. N. TEMPLE, L. A. EMERSON, R. J. GALBRAITH, T. W.

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS. SMITH, G. N. HOLLIS, O. L. THOMPSON, R. C.

06435 FIXATION OF MOLECULAR TRITIUM BY BACTERIAL SUSPENSIONS. SMITH, G. N. MARSHALL, R. O.

SMITH, M. E.

07091 THE MOVEMENT OF GASEOUS RADIONUCLIDES THROUGH GEOLOGIC MEDIA. SMITH, M. E. CARNAHAN, C. L.

SMITH, T. E.

06404 INCORPORATION OF TRITIUM FROM TRITIATED WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC ACIDS. SMITH, T. E. TAYLOR, R. T.

SNYDER, W. S.

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC CANAL WITH NUCLEAR EXPLOSIVES PHASE I. COWSER, K. E. KAYE, S. V. ROHWER, P. S. SNYDER, W. S. STRUXNESS, E. G.

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL USES OF NUCLEAR EXPLOSIVES. ROHWER, P. S. KAYE, S. V. COWSER, K. E. SNYDER, W. S. STRUXNESS, E. G.

06625 URINARY EXCRETION OF TRITIUM FOLLOWING EXPOSURE OF MAN TO HTO--A TWO EXPONENTIAL MODEL. SNYDER, W. S. FISH, B. R. BERNARD, S. R. FORD, M. R. MUIR, J. R.

06829 HEALTH PHYSICS DIVISION ANNUAL PROGRESS REPORT FOR PERIOD ENDING JULY 31, 1965. MORGAN, K. Z. SNYDER, W. S. STRUXNESS, E. G.

SOKOL, D.

07185 GROUND WATER SAFETY EVALUATION - PROJECT GASBUGGY. SOKOL, D.

SOLDAT, J. K.

06258 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1965. SOLDAT, J. K. ESSIIG, T. H.

SOMAN, S. D.

06846 ESTIMATION OF DILUTION RATE FACTORS FOR TRITIATED WATER VAPOUR FROM A REACTOR STACK. SOMAN, S. D. ABRAHAM, P.

SOUDAIN, G.

06945 DETECTION ET MEASURE DE LA CONTAMINATION PAR LE TRITIUM DES GAZ ET VAPEURS (DETECTION AND MEASUREMENT OF GASES AND VAPORS BY TRITIUM). SOUDAIN, G.

SPAEH, A. E.

06870 PERFUSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. WINDMUELLER, H. G. SPAETH, A. E.

STANIER, M. W.

06804 TRANSFER OF RADIOACTIVE WATER, UREA AND GLYCINE BETWEEN MATERIAL AND PORTAL BODY FLUIDS IN RABBITS AND PIGS. STANIER, M. W.

STEAD, P W

00038 DISTRIBUTION IN GROUNDWATER OF
RADIONUCLIDES FROM UNDERGROUND NUCLEAR EXPLOSIONS
STEAD, P W

06268 TRITIUM DISTRIBUTION IN GROUND WATER AROUND
LARGE UNDERGROUND FUSION EXPLOSIONS STEAD, P W

06398 HYDROLOGIC CONSIDERATIONS STEAD, P W

STEHLE, H

07157 COMPLETE LABELING OF ALL CELL NUCLEI IN
NEWBORN RATS WITH H-3-THYMIDINE FLIEDNER, T M
HAAS, R J STEHLE, H ADAMS, A

STEIN, O L

06468 COMPREHENSIVE FINAL REPORT OF RESEARCH
ACTIVITIES, 1956-1963 STEIN, O L

06926 PROGRESS REPORT (ON THE USE OF TRITIATED
THYMIDINE AS AN INTERNAL SOURCE OF RADIATION IN
THE STUDY OF LATERAL ROOT INITIATION), 1965-1966
STEIN, O L

STEWART, G L

06206 UNITED STATES TRITIUM RAINOUT AND ITS
HYDROLOGIC IMPLICATIONS STEWART, G L
FARNSWORTH, R K

06236 FRACTIONATION OF TRITIUM AND DEUTERIUM IN
SOIL WATER STEWART, G L

06985 TRITIUM IN STREAMS IN THE UNITED STATES,
1961-1968 WYERMAN, T A FARNSWORTH, R K
STEWART, G L

07003 TRITIUM RAINOUT OVER THE UNITED STATES IN
1962 AND 1963 STEWART, G L HOFFMAN, C M

07006 TRITIUM RAINOUT IN THE UNITED STATES DURING
1966, 1967, AND 1968 STEWART, G L
WYERMAN, T A

STICH, W

04136 DER ANSTIEG DES TRITIUMGEHALTES IM
ATMOSPHERISCHEN WASSERSTOFF SEIT 1960 (INCREASE
IN THE TRITIUM CONTENT OF ATMOSPHERIC HYDROGEN
SINCE 1960) EHHAULT, D ROETHER, W STICH, W

07013 TRITIUM AND DEUTERIUM CONTENT OF
ATMOSPHERIC HYDROGEN EHHAULT, D ISRAEL, G
ROETHER, W STICH, W

STOKSTAD, E L R

06803 INCORPORATION OF (H-3) THYMIDINE INTO
NUCLEAR AND MITOCHONDRIAL DNA IN SYNCHRONIZED
MAMMALIAN CELLS KOCH, J STOKSTAD, E L R

STOUT, G E

07093 STUDY OF RAINOUT OF RADIOACTIVITY IN
ILLINOIS, SEVENTH PROGRESS REPORT STOUT, G E

STOUT, P R

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL
COMPOSITION HANSEN, R O VIDAL, R D
STOUT, P R

STRAHS, S

07010 A COMPARISON OF H-3- AND C-14-GLUCOSE
METABOLISM IN THE INTACT RAT DUNN, A
STRAHS, S

STRAUS, C P

06196 FATE OF RADIOACTIVE CONTAMINANTS IN WATER,
PROGRESS REPORT NO 2, FOR THE PERIOD MAY 1, 1958
TO JUNE 30, 1959 STRAUS, C P

STROUD, A N

07007 THE EFFECTS OF CONTINUOUS IRRADIATION BY
TRITIUM ON CELLS CULTIVATED IN VITRO
STROUD, A N

STRUXNESS, E G

03818 DOSE-ESTIMATION STUDIES RELATED TO PROPOSED
CONSTRUCTION OF AN ATLANTIC-PACIFIC INTEROCEANIC
CANAL WITH NUCLEAR EXPLOSIVES PHASE I
COWSER, K E KAYE, S V ROHWER, P S
SNYDER, W S STRUXNESS, E G

06279 DOSE ESTIMATION STUDIES RELATED TO PEACEFUL
USES OF NUCLEAR EXPLOSIVES ROHWER, P S
KAYE, S V COWSER, K E SNYDER, W S
STRUXNESS, E G

06629 HEALTH PHYSICS DIVISION ANNUAL PROGRESS
REPORT FOR PERIOD ENDING JULY 31, 1965
MORGAN, K E SNYDER, W S STRUXNESS, E G

07140 A PRELIMINARY ASSESSMENT OF THE
RADIOLOGICAL IMPLICATIONS OF COMMERCIAL
UTILIZATION OF NATURAL GAS FROM A NUCLEARLY
STIMULATED WELL JACOBS, D G STRUXNESS, E G
BOWMAN, C R

STRYCKMANS, P A

06800 TRITIATED THYMIDINE AS A CYTOTOXIC AGENT IN
HUMAN LEUKEMIA GREENBERG, M L CHANANA, A D
CRONKITE, E P SCHIFFER, L M
STRYCKMANS, P A

STUART, M

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF
RADIONUCLIDES IN NUCLEAR CRATER EJECTA
KORANDA, J J MARTIN, J R WIKKERINK, R
STUART, M

SUESS, H E

06190 TRITIUM GEOPHYSICS AS AN INTERNATIONAL
RESEARCH PROJECT SUESS, H E

06228 TRITIUM IN THE MIXED LAYER OF THE NORTH
PACIFIC OCEAN DOCKINS, K O BAINBRIDGE, A E
MOUTERMANS, J C SUESS, H E

06844 ISOTOPIC COMPOSITION OF ATMOSPHERIC
HYDROGEN AND METHANE BAINBRIDGE, A E
SUESS, H E FRIEDMAN, I

06969 TRANSFER OF CARBON 14 AND TRITIUM FROM THE
ATMOSPHERE TO THE OCEAN SUESS, H E

SUTRA-FOURCADE Y

07116 MEANS OF DETECTING AND PROTECTING AGAINST
TRITIUM SUTRA-FOURCADE Y

SWAIN, G C

07102 A RELATION BETWEEN PROTIIUM/TRITIUM AND
PROTIUM/DEUTERIUM ISOTOPE EFFECTS SWAIN, G C
SCHAAD, L J

TADMOR, J

06277 KRYPTON-85 AND TRITIUM IN AN EXPANDING
WORLD NUCLEAR POWER ECONOMY COWSER, K E
TADMOR, J

06366 ENGINEERING, ECONOMIC, AND SAFETY
EVALUATIONS COWSER, K E PARKER, P L
TADMOR, J BOGGLY, W J, JR JACOBS, G H
LLEWELLYN, G H DYSLIN, D A

TAEGER, K

06434 ESTIMATION OF ABSORBED DOSES IN THE CELL
NUCLEUS AFTER INCORPORATION OF H-3- OR
C-14-LABELLED THYMIDINE TAEGER, K
SCHEUERMAN, W

TAJIMA, E

07002 (HUMAN BODY DOSES FROM NATURAL
RADIOACTIVITIES) TAJIMA, E

TAKAHASHI, T

06956 MEASUREMENT OF TRITIUM AT NATURAL LEVELS
TAKAHASHI, T

07036 TRITIUM CONCENTRATION IN WINE, RAIN AND
GROUND WATER TAKAHASHI, T NISHIDA, M
OHNO, S HAMADA, T

TAKAHASHI, T

06673 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER,
GROUND WATER AND HOT SPRING TAKAHASHI, T
HAMADA, T YAMASAKI, F

TAMPLIN, A

06372 THE FATE AND IMPORTANCE OF RADIONUCLIDES
PRODUCED IN FLOWSHARE EVENTS SHORE, B
ANSFAUGH, L CHERTOK, R GOFMAN, J
HARRISON, P HEPT, R KORANDA, J NG, Y
PHELPS, P POTTER, G TAMPLIN, A

TAPPAN, J T

01073 CARLSBAD SITE ROLL-UP PROGRAM, ON-SITE
RADIOLOGICAL SAFETY REPORT TAPPAN, J T
LORENZ, J J

TAYLOR, C B

06189 A COMPARISON OF TRITIUM AND STRONTIUM-90
FALLOUT IN THE SOUTHERN HEMISPHERE TAYLOR, C B

06212 TRITIUM HYDROLOGY IN NEW ZEALAND
GRANT-TAYLOR, T L TAYLOR, C B

06872 TRITIUM CONTENT OF ANTARCTIC SNOW
TAYLOR, C B

06885 TRITIUM IN SOUTHERN HEMISPHERE
PRECIPITATION 1953-1964 TAYLOR, C B

06961 TRITIUM MEASUREMENTS IN NATURE, A REVIEW OF
THE WORK OF THE TRITIUM LABORATORY, INSTITUTE OF
NUCLEAR SCIENCES, NEW ZEALAND TAYLOR, C B
POLACH, H A RAPTER, T A

TAYLOR, R T

06404 INCORPORATION OF TRITIUM FROM TRITIATED
WATER INTO CARBOHYDRATES, LIPIDS, AND NUCLEIC
ACIDS SMITH, T B TAYLOR, R T

TAYLOR, R W

07139 INTERPRETING THE CHEMICAL RESULTS OF THE
GASBUGGY EXPERIMENT TAYLOR, R W LEE, B L
HILL, J H

TEASDALE, W B

06620 HYDROLOGY OF THE NATIONAL REACTOR TESTING
STATION, IDAHO, 1966 BARRACLOUGH, J T
TEASDALE, W B ROBERTSON, J G JENSEN, R G

06621 HYDROLOGY OF THE NATIONAL REACTOR TESTING
STATION AREA, IDAHO, ANNUAL PROGRESS REPORT, 1965
BARRACLOUGH, J T TEASDALE, W B
JENSEN, R G

07160 HYDROLOGY OF SUBSURFACE WASTE DISPOSAL,
NATIONAL REACTOR TESTING STATION, IDAHO, ANNUAL
PROGRESS REPORT, 1963 MORRIS, D A
TEASDALE, W B

TEEGARDEN, B J

06968 COSMIC-RAY PRODUCTION OF DEUTERIUM AND
TRITIUM IN THE EARTH'S ATMOSPHERE
TEEGARDEN, B J

07047 A STUDY OF LOW ENERGY GALACTIC COSMIC RAYS
FROM 1961 TO 1965 TEEGARDEN, B J

TEMPLE, L A

06250 THE OXIDATION OF MOLECULAR TRITIUM IN
MAMMALS SMITH, G N EMERSON, R J
TEMPLE, L A GALBRAITH, T W

06339 THE METABOLISM OF TRITIUM GAS IN THE RAT
SMITH, G N TEMPLE, L A EMERSON, R J
GALBRAITH, T W

TERRILL, J G, JR

04074 ANALYSES OF ENVIRONMENTAL SAMPLES FOR
CARBON-14 AND TRITIUM DROBINSKI, J C, JR
LA GATTA, D P GOLDIN, A S
TERRILL, J G, JR

THATCHER, L

06994 DATING DESERT GROUND WATER THATCHER, L
RUBIN, M BROWN, G P

THATCHER, L L

03390 TRENDS IN THE GLOBAL DISTRIBUTION OF
TRITIUM SINCE 1961 THATCHER, L L
PAYNE, B R CAMERON J P

06233 WATER TRACING IN THE HYDROLOGIC CYCLE
THATCHER, L L

06256 THE MEASUREMENT OF HYDROGEN AND OXYGEN
ISOTOPES IN NATURAL WATERS AND ITS APPLICATION TO
METEOROLOGY AND HYDROLOGY, FINAL REPORT
PAYNE, B R THATCHER, L L CAMERON, J P
FLORKOWSKI, T

06854 TRITIUM FALLOUT OVER NORTH AMERICA FROM THE
SOVIET TESTS IN 1961 THATCHER, L L
HOFFMAN, C M

THEODORSSON, P

06211 NATURAL TRITIUM IN GROUNDWATER STUDIES
THEODORSSON, P

THILO, L

06210 DATING OF GROUNDWATER WITH TRITIUM AND
C-14 MUENNICH, K O ROETHER, W THILO, L

06857 TRITIUMGEHALTE IM WASSER TIEFERER
GRUNDWASSERSTOCKWERKE (TRITIUM CONTENT OF WATER IN
DEEP GROUNDWATER BASINS) MATTHESS, G
THILO, L ROETHER, W MUENNICH, K O

THODOS, G

07025 VAPOUR PRESSURE RELATIONSHIPS UP TO THE
CRITICAL POINT OF HYDROGEN MITTELHAUSER, H M
THODOS, G

THOMPSON, R C

03222 VERTEBRATE RADIOBIOLOGY- METABOLISM OF
INTERNAL EMITTERS THOMPSON, R C

06185 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER V THE PREDOMINANTLY NON-DYNAMIC
STATE OF BODY CONSTITUENTS IN THE RAT
THOMPSON, R C BALLOU, J B

06220 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER I GROSS STUDIES ON THE MOUSE
THOMPSON, R C

06340 PERCUTANEOUS ABSORPTION OF TRITIUM AND
TRITIUM OXIDE DELONG, C W THOMPSON, R C
KORNBERG, H A

06341 LONG-TERM RETENTION OF TRITIUM IN THE RAT
AND SHEEP THOMPSON, R C BALLOU, J B

06342 COMPARATIVE METABOLISM OF DEUTERIUM AND
TRITIUM IN THE RAT THOMPSON, R C
BALLOU, J B

06347 EFFECT OF BODY DISTRIBUTION AND RETENTION
OF TRITIUM ON THE HAZARD OF EXPOSURE TO TRITIUM
OXIDE THOMPSON, R C

06377 DISTRIBUTION AND RETENTION OF BOUND TRITIUM
IN THE RAT FOLLOWING EXPOSURE TO TRITIUM GAS
THOMPSON, R C HOLLIS, O L

06378 DISTRIBUTION AND RETENTION OF BOUND TRITIUM
IN THE RAT FOLLOWING CHRONIC EXPOSURE TO TRITIUM
OXIDE THOMPSON, R C BALLOU, J B

06380 EFFECT OF RADIATION ON THE INCORPORATION OF
TRITIUM BY THE RAT THOMPSON, R C
BALLOU, J B

06395 DISTRIBUTION OF BOUND TRITIUM IN THE RAT
FOLLOWING EXPOSURE TO TRITIUM GAS SMITH, G N
HOLLIS, O L THOMPSON, R C

06396 DISTRIBUTION OF BOUND TRITIUM IN THE RAT
FOLLOWING CHRONIC EXPOSURE TO TRITIUM OXIDE
THOMPSON, R C BALLOU, J B

06430 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER IV METABOLICALLY INERT LIPIDS AND
PROTEIN FRACTIONS FROM THE RAT THOMPSON, R C
BALLOU, J B

06431 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER III COMPARATIVE STUDIES WITH TRITIUM
AND DEUTERIUM THOMPSON, R C BALLOU, J B

06432 STUDIES OF METABOLIC TURNOVER WITH TRITIUM
AS A TRACER II GROSS STUDIES ON THE RAT
THOMPSON, R C

06433 BIOLOGICAL APPLICATIONS OF TRITIUM
THOMPSON, R C

06469 HAZARDS OF EXPOSURE TO TRITIUM AND TRITIUM
OXIDE THOMPSON, R C KORNBERG, H A

06784 PERCUTANEOUS ABSORPTION OF TRITIUM OXIDE
DELONG, C W THOMPSON, R C KORNBERG, H A

07106 A REVIEW OF DEUTERIUM TRACER STUDIES HAVING
A BEARING ON THE PROBLEM OF TRITIUM OXIDE
METABOLISM THOMPSON, R C

THREEFOOT, S. A.

06632 SOME FACTORS INFLUENCING INTERPRETATION OF STUDIES OF BODY WATER AND ELECTROLYTES WITH ISOTOPIC TRACERS. THREEFOOT, S. A.

TOERBER, E. D.

06779 HEALTH PHYSICS ASPECTS OF TRITIUM LUMINOUS DIAL PAINTING. MOGHISSI, A. A. TOERBER, E. D. REGNIER, J. E. CARTER, M. W. POSSEY, C. D.

TOMIKURA, Y.

06406 TRITIUM AND CARBON-14 IN THE TREE RINGS. KIGOSHI, K. TOMIKURA, Y.

TONGIORGI, E.

07173 TRITIUM AND OXYGEN-18 IN NATURAL WATER SAMPLES FROM SWITZERLAND. SIEGENTHALER, U. OESCHGER, H. TONGIORGI, E.

TRUJILLO, T. T.

06219 VOLUME AND TURNOVER OF BODY WATER IN DIPodomys DESERTI WITH TRITIATED WATER. RICHMOND, C. R. TRUJILLO, T. T. MARTIN, D. W.

06240 COMPARATIVE METABOLISM OF TRITIATED WATER BY MAMMALS. RICHMOND, C. R. LANGHAM, W. H. TRUJILLO, T. T.

07161 BIOLOGICAL EFFECTS OF INHALATION OF HIGH CONCENTRATIONS OF TRITIUM GAS. TRUJILLO, T. T. ANDERSON, E. C. LANGHAM, W. H.

TSIVOGLU, E. C.

06586 TRACER MEASUREMENT OF STREAM REABRATON. TSIVOGLU, E. C.

TUCKER, G. E. JR.

06346 AN APPROXIMATION OF RADIATION DOSE RESULTING FROM AN ACCIDENTAL RELEASE OF TRITIUM GAS. RARRICK, H. L. TUCKER, G. E. JR.

TURKEVICH, A.

00323 STRATOSPHERIC CARBON-14, CARBON DIOXIDE, AND TRITIUM. HAGENANN, P. GRAY, J., JR. MACHTA, L. TURKEVICH, A.

UCHIDA, T.

06973 THE PENETRATION AND METABOLISM OF H-3 DIMETHOATE IN INSECTS. UCHIDA, T. RAHMATI, H. S. O BRIEN, R. D.

UZZAN, G.

07151 CONSEQUENCES SANITAIRES DES REJETS ATMOSPHERIQUES DE VAPEUR D'EAU TRITIÉE. (EFFECTS ON HEALTH OF ATMOSPHERIC DISCHARGES OF TRITIATED STEAM.) PLANET, J. UZZAN, G. LE GRAND, J.

VAADIA, Y.

06368 MOVEMENT AND DISTRIBUTION OF TWO IN TISSUE WATER AND VAPOR TRANSPIRED BY SHOOTS OF HELIANTHUS AND NICOTIANA. RANEY, P. VAADIA, Y.

06866 UPTAKE AND TRANSPORT OF RADIOCHLORIDE AND TRITIATED WATER BY VARIOUS ZONES OF ONION ROOTS OF DIFFERENT CHLORIDE STATUS. HODGES, T. K. VAADIA, Y.

06875 MOVEMENT OF TRITIATED WATER IN THE ROOT SYSTEM OF HELIANTHUS ANNUUS IN THE PRESENCE AND ABSENCE OF TRANSPIRATION. RANEY, P. VAADIA, Y.

VALERO, S.

06824 DETECTION DE LA CONTAMINATION DE L'AIR PAR LA VAPEUR D'EAU TRITIÉE AUPRES DE LA PILE BL 3 (DETECTION OF THE CONTAMINATION OF AIR BY TRITIATED WATER VAPOR AROUND THE REACTOR BL 3). LEBOULEUX, P. ARDELLIER, A. VALERO, S.

VAN ASSCHE, J.

06830 RECHERCHES SUR LES TRANSFORMATIONS DE L'EAU DANS LES FEUILLES AVEC L'EAU TRITIÉE (RESEARCHES ON THE TRANSFORMATIONS OF WATER IN LEAVES WITH TRITIATED WATER). COSTES, C. FERRON, P. VAN ASSCHE, J. DEROCHE, M.

VAN DEN HOEK, J.

07024 TRANSFERT ET REPARTITION DU TRITIUM DANS LES CONSTITUANTS PRINCIPAUX DU LAIT DE VACHES ALIMENTÉES AVEC DE L'EAU CONTAMINÉE. (TRANSFER AND DISTRIBUTION OF TRITIUM AMONG THE MAIN COMPONENTS OF MILK PRODUCED BY COWS HAVING INGESTED CONTAMINATED WATER.) KIRCHMANN, R. LAFONTAINE, A. VAN DEN HOEK, J. KOCH, G.

VAUBERT, B.

07103 CONTRIBUTION A L'ETUDE DES NUISANCES RELATIVES AU TRITIUM. (STUDY OF TRITIUM HAZARDS.) VAUBERT, B. BITTEL, R.

VAUGHAN, B. E.

06605 SKIN CONTACT TRANSFER OF TRITIUM FROM BRASS. HUTCHIN, M. B. VAUGHAN, B. E.

VAUGHEN, V. C. A.

07098 ORNL EXPERIMENTS ON THE BEHAVIOR OF TRITIUM DURING HEAD-END PROCESSING OF IRRADIATED REACTOR FUELS. GOODE, J. H. VAUGHEN, V. C. A.

VENNART, J.

06777 THE USAGE OF RADIOACTIVE LUMINOUS COMPOUND AND THE NEED FOR BIOLOGICAL MONITORING OF WORKERS. VENNART, J.

06855 RADIOTOXICOLOGY OF TRITIUM AND C-14 COMPOUNDS. VENNART, J.

VERHAGEN, B. TH.

07170 CONTRIBUTION OF ENVIRONMENTAL TRITIUM MEASUREMENTS TO SOME GEOHYDROLOGICAL PROBLEMS IN SOUTHERN AFRICA. VERHAGEN, B. TH. SELLSCHOP, J. P. P. JENNINGS, C. M. H.

VERLY, W.

06350 TRITIUM IN BIOLOGY. VERLY, W.

VERLY, W. G.

06622 TRITIUM- DOSAGE, PREPARATION DE MOLECULES MARQUEES ET APPLICATIONS BIOLOGIQUES (TRITIUM- DOSAGE, PREPARATION OF LABELLED MOLECULES AND BIOLOGICAL APPLICATIONS). VERLY, W. G.

06952 CONCENTRATIONS MAXIMALES ADMISSIBLES POUR LE TRITIUM ET SES COMPOSES (MAXIMUM PERMISSIBLE CONCENTRATION FOR TRITIUM AND ITS COMPOUNDS). VERLY, W. G.

06955 MESURE DE LA CONTAMINATION DU CORPS HUMAIN (MEASUREMENT OF THE CONTAMINATION OF THE HUMAN BODY). VERLY, W. G.

VESELOVSKAYA, K. A.

07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. VESELOVSKAYA, K. A. LYUBIMOVA-GERASIMOVA, R. M. ZHURAVLEV, V. P.

VIDAL, R. D.

04882 RADIOISOTOPES IN SOILS- PHYSICAL-CHEMICAL COMPOSITION. HANSEN, R. O. VIDAL, R. D. STOUT, P. R.

VIGNEAUX, M.

06214 EVOLUTION DE L'ACTIVITE EN TRITIUM DANS LE SUD-OUEST DE LA FRANCE (EVOLUTION OF TRITIUM ACTIVITY IN THE SOUTHWEST OF FRANCE). LEVEQUE, P. VIGNEAUX, M. ALVIERIE, J.

07005 ETUDE DE L'ACTIVITE EN TRITIUM DU BASSIN VERSANT DU MONT-CENIS. (STUDY OF TRITIUM ACTIVITY OF THE BASIN POURING FROM MONT CENIS.) ALVIERIE, J. DEGOT, B. LEVEQUE, P. VIGNEAUX, M.

07022 RESULTATS DE MESURES D'ACTIVITE EN TRITIUM DE CERTAINES EAUX DU SUD-OUEST. (RESULTS OF TRITIUM ACTIVITY MEASUREMENTS OF SOME WATER OF THE SOUTHWEST.) LEVEQUE, P. VIGNEAUX, M.

VIMOKESANT, S. L.

06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. WINCHELL, H. S. VIMOKESANT, S. L. RALEY, R. B.

VINOGRADOV, A. P.

06287 THE CURRENT TRITIUM CONTENTS OF NATURAL WATERS. VINOGRADOV, A. P. DEVIRTS, A. L. DOBKINA, B. I.

VOGEL, J. C.

07172 STUDY OF A DOLOMITIC AQUIFER WITH CARBON-14 AND TRITIUM. BREDEKAMP, D. B. VOGEL, J. C.

VOLCHOK, H. L.

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. VOLCHOK, H. L. FEINER, M. SIMPSON, H. J. BROECKER, W. S. NOSHKIN, V. E. BOWEN, V. T. WILLIS, E.

VON BUTTLAR, H.

06244 STRATOSPHERISCHES TRITIUM (STRATOPHERIC TRITIUM). VON BUTTLAR, H.

06400 NATURAL DISTRIBUTION OF COSMIC-RAY PRODUCED TRITIUM II. VON BUTTLAR, H. LIBBY, W. F.

06623 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. VON BUTTLAR, H. PARZINE, K. WOHLFAHRT, H.-D.

06871 TRITIUM IN RAINWATER. VON BUTTLAR, H.

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES. VON BUTTLAR, H. WII, B.

WACHTEL, L. W.

06778 SYSTEMIC FACTOR IN RECOVERY OF RAT KIDNEY FROM X-IRRADIATION-THYMIDINE-H-3 INCORPORATION STUDIES. WACHTEL, L. W. PHILLIPS, T. L. COLE, L. J.

WAGNER, P.

06606 A SYSTEM FOR CONVENIENT COMBUSTION PREPARATION OF TRITIATED BIOLOGICAL SAMPLES FOR SCINTILLATION ANALYSIS. PETERSON, J. I. WAGNER, P. SIEGEL, S. NIXON, W.

WANG, C. H.

06818 A METHOD FOR EVALUATING SURFACE CONTAMINATION OF SOFT BETA EMITTERS. PRINCE, J. R. WANG, C. H.

WARD, P. R. B.

06265 GROUNDWATER STUDIES IN THE SABI VALLEY, RHODESIA, USING NATURAL TRITIUM MEASUREMENTS. WURZEL, P. WARD, P. R. B.

WATSON, L. C.

07146 ONE-DAY INTRODUCTION TO RADIATION PROTECTION PRINCIPLES. PENN, J. H. BUSH, W. R. WATSON, L. C.

WATSON, M. S.

06392 GROSS EFFECTS OF GROWTH-INHIBITING LEVELS OF TRITIUM OXIDE ON CHLORELLA PYRENOIDOSA. PORTER, J. W. WATSON, M. S.

WEARN, P. L.

07169 WATER MOVEMENT IN THE UNSATURATED ZONE OF HIGH AND LOW PERMEABILITY STRATA BY MEASURING NATURAL TRITIUM. SMITH, D. B. WEARN, P. L. RICHARDS, H. J. ROWE, P. C.

WEAVER, C. L.

07038 TRITIUM IN THE ENVIRONMENT FROM NUCLEAR POWERPLANTS. WEAVER, C. L. HARWARD, E. D. PETERSON, H. T., JR.

07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES. PETERSON, H. T., JR. MARTIN, J. E. WEAVER, C. L. HARWARD, E. D. 07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. MASON, B. J. WIPPER, W. J.

WEINBERGER, D.

06217 METABOLISM OF HYDROGEN ISOTOPES BY RAPIDLY GROWING CHLORELLA PYRENOIDOSA CELLS. WEINBERGER, D. PORTER, J. W.

WEINBERGER, D.

06343 METABOLISM OF HYDROGEN ISOTOPES BY ALGAE. WEINBERGER, D.

WENSTRAND, T. K.

07111 ENVIRONMENTAL REPORT NO. 3; SEPTEMBER-DECEMBER 1967. KEELY, R. B. WENSTRAND, T. K.

WENZEL, M.

06954 BEISPIELE FÜR DEN INTRAZELLULÄREN TRITIUM-STOPFWECHSEL (EXAMPLES FOR THE INTRACELLULAR TRITIUM METABOLISM). WENZEL, M.

WERNER, L. B.

06399 GROUND WATER CONTAMINATION PREDICTIONS. WERNER, L. B.

WESTPHAL, J.

06811 ENVIRONMENTAL TRITIUM IN CONJUNCTIVE USE STUDIES OF CONTINENTAL RIVER SYSTEMS. SHARP, J. V. A. WESTPHAL, J.

WETHINGTON, J. A.

06823 POSSIBLE TECHNIQUES FOR DECONTAMINATION OF NATURAL GAS FROM GAS WELLS STIMULATED BY NUCLEAR EXPLOSION. WETHINGTON, J. A.

WHIPPLE, G. H.

06384 APPROACHES TO THE CALCULATION OF LIMITATIONS ON NUCLEAR DETONATIONS FOR PEACEFUL PURPOSES. WHIPPLE, G. H.

WHITTON, J. T.

07099 CRITICAL ANALYSIS OF ICRP DERIVATION OF MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM. WHITTON, J. T.

WII, B.

07037 ENRICHMENT OF TRITIUM BY THERMAL DIFFUSION AND MEASUREMENT OF DATED ANTARCTIC SNOW SAMPLES. VON BUTTLAR, H. WII, B.

WIKKERINK, R.

06271 RESIDUAL TRITIUM AT SEDAN CRATER PART II SOIL AND EJECTA STUDIES. KORANDA, J. J. MARTIN, J. R. WIKKERINK, R.

07137 POSTSHOT DISTRIBUTION AND MOVEMENT OF RADIONUCLIDES IN NUCLEAR CRATER EJECTA. KORANDA, J. J. MARTIN, J. R. WIKKERINK, R. STUART, M.

WIKKERINK, R. W.

06272 LEACHING OF RADIONUCLIDES AT SEDAN CRATER. KORANDA, J. J. MARTIN, J. R. WIKKERINK, R. W.

WILCOX, D. P.

07112 ENVIRONMENTAL REPORT NO. 4; JANUARY-JUNE 1968. KEELY, R. B. WILCOX, D. P.

07113 ENVIRONMENTAL REPORT NO. 5; JULY-DECEMBER 1968. KEELY, R. B. WILCOX, D. P.

WILLIS, E.

06998 OCEAN FALLOUT--THE CRATER LAKE EXPERIMENT. VOLCHOK, H. L. FEINER, M. SIMPSON, H. J. BROECKER, W. S. NOSHKIN, V. E. BOWEN, V. T. WILLIS, E.

WILSON, C. B. (ED.)

07061 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. WILSON, C. B. (ED.)

07123 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1968. APPENDICES. WILSON, C. B. (ED.)

WILSON, R. H. (ED.)

07063 EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963. WILSON, R. H. (ED.)

- WILSON, S. H.
06884 ORIGIN OF TRITIUM IN HYDROTHERMAL SOLUTIONS. WILSON, S. H.
- 07119 TRITIUM DETERMINATIONS ON BORE WATERS IN THE LIGHT OF CHLORIDE-ENTHALPY RELATIONS. WILSON, S. H.
- WIMBER, D. E.
06837 EFFECTS OF INTRACELLULAR IRRADIATION WITH TRITIUM. WIMBER, D. E.
- WINCHELL, H. S.
06296 RELATIVE EFFECTS OF RADIATION ON DE NOVO DNA BASE SYNTHESIS AND THYMIDINE INCORPORATION INTO DNA. WINCHELL, H. S. VIMOKESANT, S. L. RALEY, R. B.
- WINDMUELLER, H. G.
06870 PERFUSSION IN SITU WITH TRITIUM OXIDE TO MEASURE HEPATIC LIPOGENESIS AND LIPID SECRETION. WINDMUELLER, H. G. SPAETH, A. E.
- WIPPER, W. J.
07129 ENVIRONMENTAL TRITIUM CONTAMINATION FROM INCREASING UTILIZATION OF NUCLEAR ENERGY SOURCES. PETERSON, H. T., JR. MARTIN, J. E. WEAVER, C. L. HARWARD, S. D. 07130 TRITIUM UPTAKE FOLLOWING A THERMONUCLEAR TEST. MASON, B. J. WIPPER, W. J.
- WOHLFAHRT, H.-D.
06823 TRITIUM CONCENTRATION OF GERMAN RIVER WATERS MEASURED WITH THE PROPORTIONAL-COUNTING TECHNIQUE. VON BUTTLAR, H. FARZINE, K. WOHLFAHRT, H.-D.
- WOLFGANG, R.
06856 ORIGIN OF HIGH TRITIUM CONTENT OF ATMOSPHERIC METHANE, HYDROGEN AND STRATOSPHERIC WATER. WOLFGANG, R.
- WOLFGANG, R. L.
06402 TRITIUM IN NATURE. GROSSE, A. V. JOHNSTON, W. M. WOLFGANG, R. L. LIBBY, W. P.
- WOODARD, H. O.
07070 THE BIOLOGICAL EFFECTS OF TRITIUM. WOODARD, H. O.
- WOODS, P. W.
06221 TRITIATED WATER AS A TOOL FOR ECOLOGICAL FIELD STUDIES. WOODS, P. W. ONEAL, D.
- WOOLDRIDGE, C. B.
06467 EVALUATION OF RADIOLOGICAL CONDITIONS IN VICINITY OF HANFORD, JANUARY-JUNE, 1968. WOOLDRIDGE, C. B.
- WOOLLEY, J. T.
06886 RADIAL EXCHANGE OF LABELED WATER IN INTACT MAIZE ROOTS. WOOLLEY, J. T.
- WRIGHT, A.
06669 ABSORPTION OF TRITIATED WATER BY THE CLOACA OF THE DOMESTIC DUCK (ANAS PLATYRHYNCHOS). PEAKER, M. WRIGHT, A. PEAKER, S. J. PHILLIPS, J. G.
- WRIGHT, S. R.
06428 REPORT OF THE BIOASSAY PROGRAMS; JULY 1968 THROUGH JUNE 1969. SARGENT, T. W. WRIGHT, S. R. BUCKLEY, B. C. LOW-BEER, A. DE G.
- WURZEL, P.
06265 GROUNDWATER STUDIES IN THE SABI VALLEY, RHODESIA, USING NATURAL TRITIUM MEASUREMENTS. WURZEL, P. WARD, P. R. B.
- WYERMAN, T. A.
06985 TRITIUM IN STREAMS IN THE UNITED STATES, 1961-1968. WYERMAN, T. A. FARNSWORTH, R. K. STEWART, G. L.
- 07006 TRITIUM RAINOUT IN THE UNITED STATES DURING 1966, 1967, AND 1968. STEWART, G. L. WYERMAN, T. A.
- WYLIE, K. P.
06283 BIOLOGICAL HALF-LIFE OF TRITIUM. WYLIE, K. P. BIGLER, W. A. GROVE, G. R.
- YAMASAKI, F.
06873 MEASUREMENT OF TRITIUM IN RAIN, CITY WATER, GROUND WATER AND HOT SPRING. TAKAHASHI, T. HAMADA, T. YAMASAKI, F.
- YEN, C. K.
07168 VARIATION OF THE TRITIUM AND OXYGEN-18 CONTENT IN PRECIPITATION AND SNOWPACK IN A REPRESENTATIVE BASIN IN CZECHOSLOVAKIA. DINCER, T. MARTINEC, J. YEN, C. K. PAYNE, B. R.
- YONEDA, K.
06971 DAILY VARIATIONS IN THE TRITIUM CONCENTRATION OF ATMOSPHERIC MOISTURE. KIGOSHI, K. YONEDA, K.
- YUILE, C. L.
07000 TRITIUM; SOME EFFECTS OF CONTINUOUS EXPOSURE IN UTERO ON MAMMALIAN DEVELOPMENT. CAHILL, D. P. YUILE, C. L.
- ZAKUTINSKII, D. I.
07042 TOXICITY OF TRITIUM OXIDE. ZAKUTINSKII, D. I. NAKHIL NITSKAYA, Z. N. PETROVICH, T. K.
- ZAOALEK, P.
06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ZUPPINGER, A. PORETTI, G. SCHWARZ, K. ZAOALEK, P. AEBI, H.
- 06858 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). ZUPPINGER, A. PORETTI, G. G. ZAOALEK, P. AEBI, H.
- ZHURAVLEV, V. P.
06862 EXPERIMENTAL DETERMINATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF TRITIUM OXIDE (K EKSPERIMENTAL'NOMU OBOBNOVANIYU PREDEL NO DOPUSTIMOI KONTSENTRATSII OKISI TRITIYA). MOSKALEV, YU. I. ZHURAVLEV, V. P.
- 06874 THE MAXIMUM PERMISSIBLE CONCENTRATION OF GASEOUS TRITIUM IN THE AIR OF WORKING PREMISES. SHTUKKENBERG, YU. M. ZHURAVLEV, V. P.
- 07040 DYNAMICS OF CHANGES IN THE IMMUNOLOGICAL REACTIVITY OF DOGS INJURED WITH TRITIUM OXIDE. SHAL NOVA, G. A. ZHURAVLEV, V. P.
- 07041 IMMUNOLOGICAL REACTIVITY AND THE BLOOD PICTURE IN RATS AFTER A SINGLE PARENTERAL ADMINISTRATION OF TRITIUM OXIDE IN SMALL DOSES. SHAL NOVA, G. A. ZHURAVLEV, V. P.
- 07043 TOXICITY OF TRITIUM OXIDE FOR RATS AND MICE IN THE CASE OF INTRAPERITONEAL INJECTION. ZHURAVLEV, V. P. BUGRYSHEV, P. F. ISTOMINA, A. G.
- 07044 BIOLOGICAL EFFECT OF TRITIUM OXIDE. ZHURAVLEV, V. P. BUGRYSHEV, P. F. ISTOMINA, A. G.
- 07060 BIOLOGICAL EFFECTS AND KINETICS OF THE ELIMINATION OF TRITIUM OXIDE IN DOGS. ZHURAVLEV, V. P. KALAZINA, N. S. KALISTRATOVA, V. S. KRYUK, V. P.
- 07066 THE CONDITION OF THE CARDIOVASCULAR, RESPIRATORY AND NERVOUS SYSTEMS OF RATS TREATED WITH TRITIUM OXIDE. VESELOVSKAYA, K. A. LYUBIMOVA-GERASIMOVA, R. M. ZHURAVLEV, V. P.
- 07068 STATE OF AUTOINFECTION RESISTANCE IN MICE TREATED WITH TRITIUM OXIDE. SHAL NOVA, G. A. ZHURAVLEV, V. P. KUZ MINA, T. D.

ZIMMERMANN, U.

06230 DOWNWARD MOVEMENT OF SOIL MOISTURE TRACED BY MEANS OF HYDROGEN ISOTOPES. ZIMMERMANN, U. MUENNICH, K. O. ROETHER, W.

07134 SOIL-WATER MOVEMENT AND EVAPOTRANSPIRATION; CHANGES IN THE ISOTOPIC COMPOSITION OF THE WATER. ZIMMERMANN, U. BHHALT, D. MUENNICH, K. O.

ZORICH, T. M.

06711 BIOENVIRONMENTAL AND RADIOLOGICAL-SAFETY FEASIBILITY STUDIES, ATLANTIC-PACIFIC INTEROCEANIC CANAL; HYDROLOGIC REDISTRIBUTION OF RADIONUCLIDES AROUND NUCLEAR EXCAVATED SEA-LEVEL CANALS IN PANAMA AND COLOMBIA. CHARNELL, R. L. ZORICH, T. M. HOLLY, D. E.

ZUPPINGER, A.

06810 DISTURBANCES IN TRITIUM CONTENT IN ORGANS AFTER IRRADIATION. ZUPPINGER, A. PORETTI, G. SCHWARZ, K. ZAORALEK, P. AEBI, H.

06858 STRAHLENBEDINGTE STORUNGEN DES TRITIUMEINBAUES IN DIE ORGANISCHE ZELLSUBSTANZ (RADIATION CONDITION DISTURBANCE OF TRITIUM INCORPORATION IN ORGANIC CELL SUBSTANCES). ZUPPINGER, A. PORETTI, G. G. ZAORALEK, P. AEBI, H.

* END *

BAUES IN DIE ORGANISCHE ZELLSUBSTANZ

REPORT NUMBER INDEX

Report number	Accession number	Report number	Accession number
A/AC.88/G/L-		AERE-HP/M-	
511	06796	137	06329
693	06460		
ACNP-		AERE-Inf/Bib.-	
61525 (Rev. 1)	07120	91	06957
AE-		AERE-PR/HPM-	
234	04066	12	06636
AD-		AERE-R-	
150493	07102	3970	07087
154131	05144	6212	07074
298974	07164		
702155	07050	AFCRL-	
		62-295	07078
		63-260	07164
AEC-tr-			
6944 (Rev.)		AFOSR-TR-	
pp. 234-241	07044	58-41	05144
AECL-		AFRRI-SP-	
1518	07079	66-13	06439
1624	06601		
1739	06333	AHSB (RP) R-	
1889	06425	41	06833
2045	06600	51	06816
2107	06423		
2594	06599	ANL-	
2656	07146	7104	07104
2665	06634		
2678	06609	BMI-	
2699	06369	171-2	04224
2756	06484	171-16	06711
3158	06373		
3199	06635	BNL-	
3284	06374	50196	07058
3357	07056	50233	07065
3374	06293		
3430	06292	BNL-Tr-	
3557	07056	42	06925
3565	07163		
		BNWL-	
AECU-		316	06258
2571	06835	316 (App.)	06257
3968	07102	432	06608
4024	06295	439 (App.)	07147
		687	06881
AERE-Bib. -		835	06892
132	06960	984	07089

Report number	Accession number	Report number	Accession number
BNWL-		CONF-	
1047	06612	650652	06489
1135	06467	660920	
1233	06814	p. 369	07048
1341	07061	670503	
1341 (App.)	07123	pp. 696-708	06239
1392	07095	670512-2	06602
		670512-12	06631
BNWL-CC-		670521	
547	07115	pp. 427-434	07179
		pp. 435-450	07178
BRH/NERHL-		pp. 534-542	07180
70-1	07053	670972	07029
70-3	07052	671018-1	06817
		680657	06861
BRH/OCS-		680725	07141
70-1	07184	690317	
		see STI/PUB/266	
CEA-Bib-		690406-9	06372
76	06815	690508	07148
87	06932	690540	
		pp. 43-56	07135
CEA-N-		690817-1	06791
489	06941	700101	
		pp. 400-421	07137
CEA-R-		pp. 422-438	06987
2629	06930	pp. 662-697	07138
3350	07116	pp. 775-793	07092
3617	06624	pp. 794-814	07139
		pp. 831-849	07140
CONF-		pp. 881-830	07118
337-46	05105	pp. 1589-1596	06823
765		pp. 1597-1612	07136
pp. 646-674	03390	700101-6	06829
pp. 675-686	06238	700505-11	07151
640413		700810-6	07101
pp. 1-3	06938		
pp. 5-9	06939	COO-	
pp. 10-16	06940	651-72	07094
pp. 17-26	06941	1199-14	06619
pp. 28-33	06942	1199-17	07093
pp. 34-39	06943	1603-2	07088
pp. 40-52	06944		
pp. 53-61	06945	CU-	
pp. 62-66	06946	2493-10 (App.D)	06386
pp. 67-69	06947	2663-10 (App.2)	06966
pp. 83-86	06948		
pp. 91-97	06949	DOCKET-	
pp. 98-102	06950	50201-21	07109
pp. 107-111	06951	50201-22	07111
pp. 117-121	06952	50201-23	07112
pp. 124-127	06953	50201-24	07113
pp. 129-131	06954	50201-25	07110
pp. 132-136	06955	50201-27	06937

Report number	Accession number	Report number	Accession number
DP-		HW-	
831	06889	74536	06461
pp. 38-45	05053	80991	07083
		84549	06793
DP-MS-		HW-SA-	
66-77	06631	3303	06794
67-55	06611		
67-95	06370	IAEA-	
68-23	06615	3162-1	06256
DPST-		IDO-	
66-30-1	06931	12020	06834
66-30-2	06795	12040(Suppl. 1)	06798
67-30-1	04271	12040(Suppl. 2)	06797
69-30-2	06896	12040(Suppl. 3)	06799
70-30-1	07096	12040(Suppl. 4)	06787
EUR-		12043	06618
4522	07103	22046	07160
		22048	06621
HASL-		22049	06620
229	07070	INS-R-	
HNS-		24	06961
1229-61	06626	29	07119
HW-		ISO-SA	
20735	07106	32	06602
23332	07156	LA-	
25021	07090	1218	06424
28636		1464	06328
pp. 43-51	06339	1467	06327
pp. 52-58	06340	1468	06836
pp. 59-66	06341	1646	06831
pp. 67-71	06342	1986	07161
pp. 72-74	06343	2163	06264
pp. 75-77	06344	2671	06900
pp. 98-109	06345		
29615(Rev., Del.)	06469	LAMS-	
30340	06347	2526	06192
30437		2946	07114
pp. 50-58	06391	LS-	
pp. 71-72	06392	58	07057
pp. 73-76	06393	MLM-	
pp. 77-78	06394	1210	06825
pp. 81-86	06395	1241	06824
pp. 87-92	06396	1275	06826
35917		1335	06826
pp. 87-93	06377	1356	06832
pp. 94-97	06378		
pp. 98-103	06379		
pp. 104-107	06380		

Report number	Accession number	Report number	Accession number
MLM-		ORNL-	
1391	06597	4422	07055
1425	06596	4579	07162
1464	06883		
1615	07149	ORNL-TM-	
1616	06790	851	06807
1784	07075	1681	06933
		2198	06882
N-		2229	06251
69-19626	07030	2399	06899
		2502	07085
NP-		2567	07084
7148	06350	2721	06330
14825	06630	2756	06901
		2793	07098
NP-tr-		2888	07081
1703	07030	3134	06989
		3181	07186
NSJ-Tr-			
49	06956	ORO-	
		3192-6	06926
NVO-		3488-8	06288
28		490	06367
pp. 5-16	06398		
pp. 17-28	06399	PB-	
49 (Rev. 2)		189406	07062
pp. 69-82	07143	191907	07053
61	06429		
79	07150	PNE-	
410-2	07073	102F	06887
1229-85	07091	327	07158
1229-108	06809	1009	07185
1229-131	06821		
		PNE-G-	
NYO-		10	06880
2174-87	07035	48	06243
3039-1	06789	55	07092
3561-3	06928	56	07118
		63	07122
		65	07121
ORNL-			
3334	07086	PNE-R-	
3721	07108	13	06429
3849	06629		
4101	03818	PNROO-DEV-	
4168		129	06808
pp. 39-48	06366		
4272	07054	PRNC-	
4316		103	07069
pp. 47-50	06277	119	06376
pp. 50-51	06278	135	07148
pp. 60-68	06279		

Report number	Accession number	Report number	Accession number
PRNC-		STI/PUB-	
138		152	
see TID-24270		pp. 93-104	06227
		pp. 129-141	06228
RD/B/M-		156	06602
1354	07099	159	
		pp. 479-490	06226
RLO-		183	
2047-5	07117	pp. 1-15	07124
		pp. 29-64	07125
SAM-TR-		pp. 65-78	07126
69-82	07050	pp. 91-107	07127
		pp. 147-163	07128
SC-DC-		190	
67-2191	06817	pp. 31-38	07141
		255	
SC-TM-		pp. 3-21	07167
67-405	06289	pp. 23-42	07168
406-59(33)	06346	pp. 73-87	07169
		pp. 139-151	07056
SCPRI(RM)-		pp. 289-313	0717
IX-1967 & Suppl.	07097	pp. 333-348	07171
		pp. 349-372	07172
STI/DOC-		pp. 373-385	07173
10/73	06633	pp. 523-541	07174
10/96	07077	pp. 787-800	07175
10/117	07182	261	
		pp. 287-300	07101
STI/PUB-		266	
15/2	06622	pp. 35-60	07129
39	06491	pp. 167-174	07130
55			
pp. 115-133	06494	SWRHL-	
71		82	
pp. 1-24	04934	pp. 185-206	06294
pp. 347-363	04942	pp. 401-435	06381
pp. 397-406	04944	pp. 436-459	06382
84		pp. 585-594	06383
pp. 419-430	06492	pp. 684-696	06384
pp. 431-442	06493	94r	07107
141		95r	07051
pp. 73-91	07133	100r	07122
pp. 305-320	06210	105r	07121
pp. 371-380	06211		
pp. 381-400	06212	TID-	
pp. 401-415	06213	371	06934
pp. 417-432	06214	7695	00038
pp. 433-450	06215	12884	06796
pp. 451-473	06216	13613	06337
pp. 567-585	07134	14425	06897

Report number	Accession number	Report number	Accession number
TID-		UCRL-	
16272	06890	72175	07128
18499	06792	72256	06987
19994	07082		
21400	06818	UR-	
21604	06468	49-1254	07155
21756	06805		
24138	06490	USGS-	
24270		474-67	07049
pp. H123-128	07188		
pp. H129-131	07189	VUF-	
24635	06440	1014	06888
25006	06898		
25284	06837	WAPD-Trans-	
25285	06936	102	07116
UCID-		WASH-	
15136	06927	1023	06191
15259	07080	1148	07159
UCRL-			
5069	06958		
10032	06891		
12302-T	03732		
18347			
pp. 149-154	06296		
19354	06428		
50213	06935		
50360	06271		
50360	06271		
50461	06388		
50461	06388		
50531	06459		
50635 (Rev.)	06829		
50639	07105		
50718	06488		
50781	06404		
50790	07059		
50791	07100		
50850	07144		
50882	07071		
70292	06239		
70630	06272		
71314 (Rev.)	06880		
71443	06372		
71653	06791		
71659	06294		
71867	06371		
72087	06823		
72152	07118		
72153	07092		