

RECORDS TRANSMITTAL

DEPARTMENT / DIVISION Biology & Medicine Administrative Offices		BLOG 1	RM. 474	RECORDS MANAGEMENT USE ONLY		FILE UNIT CODE 19-3-6	DATE Oct 8, 1986
PERSON TO CONTACT Dr. John H. Lawrence / Ann Lee (642-3591)		EXT. 6671		BRCA MANUAL REF DOE 1324.2 CRS-19 Par 3		LBL SCHEDULE REF CUBIC FEET 1	
DEPARTMENT HEAD OR DESIGNEE (Signature Required) Dr. John H. Lawrence		DATE		RMA BLDG LOCATION/INCLUSIVE SHELF SPACES Bldg 69 Seat 6053		TRANSFERRED TO _____ DATE _____	
				RETENTION PERIOD PERMANENT ARCHIVES		REVIEW YEAR 0000	

TITLE OF RECORDS OR FILE UNIT John H. Lawrence, M.D.	INCLUSIVE DATES
ARRANGEMENT OF RECORDS	CLASSIFICATION <input type="checkbox"/> UNCL. <input type="checkbox"/> CLASS.

BRIEF DESCRIPTION OF RECORDS

NO.	INCLUSIVE CONTENTS	SEAT LOCATION	NO.	INCLUSIVE CONTENTS	SEAT LOCATION
BOX 1	Important letters, personal notes, miscellaneous letters	6053			
	miscellaneous Donner Lab, Medical Physics material				
	JHL speeches and talks				
	correspondence: M-P, 1970-79 Mc / C J				
	file: Shoong Foundation				
	Protocol Book #1 of Defense project WWII				
	file: important photos				
	binder: medical research JHL				
	file: Wm Beierwaltes				
	file: Newspapers-French Atomic Energy				
	file: Bancroft Library Inventory of JHL corresp. & papers				
	Wright Field Contracts, letters, etc. 1942-44				
	Academic Senate Faculty Code of Conduct				
	Dr. Lawrence, Seattle, WA				
	file: Univ. of South Dakota				

THE ABOVE RECORDS WERE RECEIVED AND ARE AVAILABLE FOR REFERENCE
SEE REVERSE SIDE FOR DISPOSAL CERTIFICATE

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Dorothy Tuley 10/8/86
(Signature of Records Center Head or Designee) (Date)

<i>SOME MEDICAL PROBLEMS STUDIED WITH ISOTOPES</i>	<i>ELEMENT</i>
BODY WATER TURNOVER AND CONTENT	HYDROGEN
SLOW NEUTRON THERAPY OF EXPERIMENTAL TUMORS	BORON, LITHIUM
FAST NEUTRON IRRADIATION AND THERAPY	BERYLLIUM
CARBON MONOXIDE DISTRIBUTION AND ELIMINATION	CARBON
RESPIRATORY GAS EXCHANGE	NITROGEN, ARGON
BONE AND TOOTH PHYSIOLOGY AND CHEMISTRY	FLUORINE
CONGESTIVE HEART DISEASE	SODIUM
DIETARY CHLORIDE DEFICIENCY	SODIUM
ADRENAL PHYSIOLOGY	SODIUM, POTASSIUM
THERAPY OF LEUKEMIA	SODIUM, PHOSPHORUS
THERAPY OF POLYCYTHEMIA VERA	PHOSPHORUS
LABELING OF ERYTHROCYTES	PHOSPHORUS
THIAMINE METABOLISM	SULFUR
BLOOD CIRCULATORY PATTERN	ARGON
BLOOD PHYSIOLOGY	IRON
THYROID PHYSIOLOGY	BROMINE, IODINE
BONE PHYSIOLOGY	STRONTIUM
THERAPY OF METASTATIC THYROID CARCINOMA	IODINE
ABSORPTION OF INSULIN	IODINE
ARTHRITIS STUDIES	GOLD
MERCURY VAPOR AS AN INDUSTRIAL HAZARD	MERCURY

<i>ELEMENT</i>	<i>ISOTOPE</i>		<i>SOME PROBLEMS IN WHICH ISOTOPE HAS BEEN USED</i>
	<i>STABLE</i>	<i>ACTIVE</i>	
HYDROGEN	^1_1H ^2_1H (D)	^3_1H (T)	HIGH SPEED PROTON IRRADIATION (SUGGESTED); INTERMEDIARY METABOLISM, BODY WATER TURNOVER AND CONTENT; BODY WATER CONTENT, PHOTOSYNTHESIS
LITHIUM	^6_3Li		SLOW NEUTRON THERAPY OF EXPERIMENTAL TUMORS
BERYLLIUM	^9_4Be	^7_4Be	ABSORPTION, DISTRIBUTION, AND EXCRETION; FAST NEUTRON IRRADIATION AND THERAPY
BORON	$^{10}_5\text{B}$		SLOW NEUTRON THERAPY OF EXPERIMENTAL TUMORS
CARBON	$^{12}_6\text{C}$	$^{11}_6\text{C}$ $^{14}_6\text{C}$	INTERMEDIARY METABOLISM, CO DISTRIBUTION AND ELIMINATION, PHOTOSYNTHESIS; INTERMEDIARY METABOLISM; PHOTOSYNTHESIS, OTHER PRELIMINARY TRACER WORK
NITROGEN	$^{14}_7\text{N}$	$^{15}_7\text{N}$	RESPIRATORY GAS EXCHANGE, SUPPOSED NITROGEN FIXATION BY BARLEY; INTERMEDIARY METABOLISM
OXYGEN	$^{16}_8\text{O}$		PHOTOSYNTHESIS, BACTERIAL FRACTIONATION
FLUORINE		$^{18}_9\text{F}$	BONE AND TOOTH PHYSIOLOGY AND CHEMISTRY
SODIUM		$^{22}_{11}\text{Na}$ $^{24}_{11}\text{Na}$	RETENTION IN CONGESTIVE HEART DISEASE, EFFECT OF DIETARY CHLORIDE DEFICIENCY; ELECTROLYTE METABOLISM, ADRENAL PHYSIOLOGY, THERAPY OF LEUKEMIA
MAGNESIUM		$^{27}_{12}\text{Mg}$	PHOTOSYNTHESIS
PHOSPHORUS		$^{32}_{15}\text{P}$	MINERAL METABOLISM, INTERMEDIARY METABOLISM, THERAPY OF CHRONIC LEUKEMIA; POLYCYTHEMIA VERA, ETC., AND SKIN LESIONS, LABELING OF ERYTHROCYTES; DIAGNOSIS OF MALIGNANCY, COLLOIDS LOCALIZING IN THE RETICULOENDOTHELIAL SYSTEM
SULFUR	$^{34}_{16}\text{S}$	$^{35}_{16}\text{S}$	INTERMEDIARY METABOLISM; INTERMEDIARY METABOLISM, THIAMINE METABOLISM, MINERAL METABOLISM
CHLORINE		$^{38}_{17}\text{Cl}$	MINERAL METABOLISM
ARGON		$^{41}_{18}\text{Ar}$	RESPIRATORY GAS EXCHANGE, BLOOD CIRCULATORY PATTERN

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ELIMINATION OF CO AND ITS POSSIBLE CONVERSION TO CO₂

The appearance of C¹⁴O₂ in the exhaled air after breathing C¹⁴O

Name	Date	C ¹⁴ O sample taken in through lungs	Time soda lime exposed to exhaled air	Net counts per minute absorbed in soda lime	Ratio of C ¹⁴ O ₂ formed to radioactivity of original sample	Percent CO evolved in same period	CO burned CO lost in some period percent
	1945	counts/min.	minutes				
JHL (1)	3-22	1,080,000	0-15	0	0.000%	28.0	0.00
MIG	3-23	1,830,000	0-15	42	0.016	26.4	0.06
BRB (1)	3-24	795,000	0-15	130	0.114	29.0	0.39
CAT (1)	4-3	2,200,000	0-15	13	0.004	14.0	0.03
			15-30	5,600	1.820	8.5	21.40
			30-45	33	0.011	6.0	0.18
BRB (2)	4-6	3,540,000	0-10	16	0.005	10.0	0.05
			10-20	34	0.010	9.0	0.11
			20-30	31	0.009	8.0	0.11
			30-40	30	0.009	7.0	0.12
			40-50	0	0.000	6.0	0.00
			50-60	0	0.000	5.0	0.00
JHL (2)	4-6	2,940,000	0-15	0	0.000		0.00
			15-30	11	0.003	14.4	0.02
			30-45	26	0.006	13.0	0.05
CAT (2)	4-7	3,610,000	0-15	12	0.002	14.0	0.02
			15-30	6	0.001	8.5	0.01
			30-45	0	0.000	6.0	0.00
			45-60	1	0.000		0.00
<i>Average</i>		<i>2,230,000</i>	<i>15 minute period</i>	<i>24</i>	<i>0.12</i>	<i>14.5</i>	<i>0.07</i>