MASTER

**Stable Isotope Customer List
and Summary of Shipments—FY 1977**

W. C. Davis

OAK RIDGE NATIONAL LABORATORY
OPERATED BY UNION CARBIDE CORPORATION · FOR THE DEPARTMENT OF ENERGY

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

Printed in the United States of America. Available from
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road, Springfield, Virginia 22161
Price: Printed Copy \$4.50 ; Microfiche \$3.00

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, contractors, subcontractors, or their employees, makes any warranty, express or implied, nor assumes any legal liability or responsibility for any third party's use or the results of such use of any information, apparatus, product or process disclosed in this report, nor represents that its use by such third party would not infringe privately owned rights.

Contract No. W-7405-eng-26
CHEMICAL TECHNOLOGY DIVISION

STABLE ISOTOPE CUSTOMER LIST
AND SUMMARY OF SHIPMENTS — FY 1977

Compiled by
W. C. Davis

Date Published - April, 1978

NOTICE MN ONLY

PORTIONS OF THIS REPORT ARE ILLEGIBLE. It
has been reproduced from the best available
copy to permit the broadest possible avail-
ability.

NOTICE This document contains information of a preliminary nature.
It is subject to revision or correction and therefore does not represent a
final report.

OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37830
operated by
UNION CARBIDE CORPORATION
for the
DEPARTMENT OF ENERGY

NOTICE
This report was prepared as an account of work
sponsored by the United States Government. Neither the
United States nor the United States Department of
Energy, nor any of their employees, nor any of their
contractors, subcontractors, or their employees, makes
any warranty, express or implied, or assumes any legal
liability or responsibility for the accuracy, completeness
or usefulness of any information, apparatus, product or
process disclosed, or represents that its use would not
infringe privately owned rights.

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

fy

THIS PAGE
WAS INTENTIONALLY
LEFT BLANK

CONTENTS

	<u>Page</u>
INTRODUCTION	1
I. ALPHABETICAL LIST OF CUSTOMERS, WITH CONTACTS AND ISOTOPES PURCHASED	2
A. Domestic	2
B. Foreign	10
II. ALPHABETICAL LIST OF ISOTOPES, CROSS-REFERENCED TO CUSTOMER NUMBERS	18
A. Domestic	18
B. Foreign	23
III. ALPHABETICAL LIST OF STATES AND COUNTRIES, CROSS-REFERENCED TO CUSTOMER NUMBERS	29
A. Domestic	29
B. Foreign	30
IV. STABLE ISOTOPE SALES - FY 1977	31

STABLE ISOTOPE CUSTOMER LIST
AND SUMMARY OF SHIPMENTS - FY 1977

W. C. Davis

INTRODUCTION

This compilation is published as an aid to those concerned with the separation and sale of stable isotopes. The information is divided into four sections:

1. Alphabetical list of domestic and foreign customers, showing the stable isotopes purchased during the fiscal year;
2. Alphabetical list of isotopes, cross-referenced to customer numbers and divided into domestic and foreign categories;
3. Alphabetical list of states and countries, cross-referenced to customer numbers and indicating geographical concentrations of isotope users;
4. Tabulation of the shipments, quantities, and dollars for domestic, foreign, and project categories for each isotope, with the totals for loaned isotopes shown at the end of the table.

Other reports published in this series are:

ORNL/TM-1928
ORNL/TM-2038
ORNL/TM-2401
ORNL/TM-2747
ORNL/TM-3146
ORNL/TM-3543
ORNL/TM-3987
ORNL/TM-4693
ORNL/TM-5089
ORNL/TM-5853

We wish to thank S. E. Curtis of the Business Systems Department of the ORGDP Computing Technology Center for his assistance in developing the tabulations.

I. ALPHABETICAL LIST OF CUSTOMERS, WITH CONTACTS AND ISOTOPES PURCHASED

A. DOMESTIC

- 1 Abilene Christian College
Box 8208
Abilene, Texas

54Fe
- 2 Accu-Labs Research, Inc.
9170 West 44th Avenue
Wheat Ridge, Colorado 80033

183W
- 3 Aerojet Nuclear Company
550 Second Street
P. O. Box 1845
Idaho Falls, Idaho 83401

148B, 178Ba, 136Ce, 132Gd, 138La, 6Li,
145Nd, SS, 182W, 183W, 171Yb, 173Yb
- 4 Alabama Power Company
P. O. Box 2641
Birmingham, Alabama 35291

7Li
- 5 Alabama, University of
Medical Center
1919 Seventh Avenue, South
Birmingham, Alabama 35486

57Fe, 6Li
- 6 Alaska, University of
College, Alaska 99735

30Si
- 7 Aldrich Chemical Company, Inc.
940 West St. Paul Avenue
Milwaukee, Wisconsin 53233

7Li
- 8 Allied Chemical Corporation
Central Accounts Payable
P. O. Box 2251R
Morristown, N. J. 07960

78Br, 81Br
- 9 Allied-General Nuclear Services
BNFP-Osborn Road (P. O. Box 847)
Barnwell, South Carolina 29012

153Gd, 146Nd, 150Nd
- 10 Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

107Ag, 118, 137Ba, 40Ca, 44Ca, 46Ca,
63Cu, 65Cu, 160Dy, 54Fe, 160Gd,
39K, 6Li, 7Li, 24Mg, 25Mg, 26Mg,
95Mo, 97Mo, 58Ni, 60Ni, 62Ni,
192Os, 208Pb, 102Pd, 104Pd, 106Pd,
108Pd, 85Rb, 80Se, 116Sn, 119Sn,
86Sr, SS, Tgs, 205Tl, 172Yb, 90Zr,
91Zr
- 11 Arizona, University of
Post Office Drawer 4100
Tucson, Arizona 85721

107Ag, 135Ba, 142Ce, 65Cu, 156Dy,
161Dy, 167Er, 170Er, 153Eu, 155Gd,
179Hf, 193Ir, 138La, 176Lu, 145Nd,
190Os, 149Sm, 152Sm, 170Yb, 171Yb,
67Zn, 91Zr
- 12 Arkansas Power and Light Company
P. O. Box 551
Little Rock, Arkansas 72203

7Li
- 13 Atomergic Chemetals Corporation
100 Fairchild Avenue
Plainville, N. Y. 11803

7Li
- 14 Atomics International Division
North American Rockwell Corporation
Post Office Box 309
Canoga Park, California 91304

Tgs
- 15 Baltimore Gas and Electric Company
Post Office Box 1472
Baltimore, Maryland 21200

7Li
- 16 Dartol Research Corporation
Swarthmore, Pennsylvania 19081

136Ba, 7Li, 25Mg, 208Pb, SS
- 17 Baylor University
Box 6397
Waco, Texas 76703

6Li, 7Li
- 18 Bell Telephone Laboratories
Murray Hill, New Jersey 07971

108, 118, 78Br, 81Br, 57Fe, 58Fe,
196Pt, SS, Tgs, 205Tl, 166W
- 19 Brigham Young University
Provo, Utah 84601

62Ni
- 20 British American Scientific Instruments Corporation
3937 Richmond Avenue
Houston, Texas 77027

86Rb, 86Sr
- 21 Brookhaven National Laboratory
Upton, Long Island, New York 11973

108, 116Cd, 52Cr, 166Er, 170Er,
69Ga, 156Gd, 160Gd, 72Ge, 74Ge,
6Li, 25Mg, 92Mo, 142Nd, 144Nd, 146Nd,
148Nd, 150Nd, 44Ni, 192Os, 208Pb,
103Pd, 106Pd, 108Pd, 106Pt, 96Ru,
76Se, 78Se, 28Si, 146Sm, 150Sm,
152Sm, 154Sm, 116Sn, 124Sn, SS, 128Te,
130Te, Tgs, 205Tl, 67Zn, 90Zr, 92Zr

- 22 Brooklyn College
Bedford Avenue and Avenue H
Brooklyn, New York 11210
 ^{42}Ca , ^{35}Cl , ^{39}K , ^6Li , ^{25}Mg , ^{60}Ni ,
 ^{29}Si , ^{30}Si
- 23 Brown University
Providence, Rhode Island 02912
108
- 24 California Institute of Technology
1201 E. California Boulevard
Pasadena, California 91109
 ^{40}Ca , ^{54}Cr , ^{56}Fe , ^{152}Gd , ^{24}Mg , ^{25}Mg ,
 ^{26}Mg , ^{62}Ni , ^{190}Os , ^{102}Pd , ^{108}Pd ,
 ^{110}Pd , Tgs, ^{49}Ti , ^{180}W , ^{168}Yb ,
 ^{68}Zn
- 25 California State College
5151 State College Drive
Los Angeles, California 90032
 ^{87}Rb
- 26 California, University of
400 Sproul Hall
Berkeley, California 94720
 ^{113}Cd , ^{208}Pb
- 27 California, University of
Davis, California 95616
 ^{40}Ca , ^{48}Ca , ^7Li , SS, ^{203}Tl , ^{205}Tl
- 28 California, University of
Post Office Box 109
La Jolla, California 92037
 ^{118}Ba , ^{138}Ba , ^{142}Nd , ^{86}Sr
- 29 California, University of
405 Hilgard Avenue
Los Angeles, California 90024
 ^{40}Ca , ^{42}Ca , SS, Tgs
- 30 California, University of
900 Veteran Avenue
Los Angeles, California 90024
 ^{52}Cr , ^{63}Cu , ^{65}Cu , ^{56}Fe , ^{64}Ni , ^{124}Te ,
 ^{48}Ti
- 31 California, University of
Post Office Box 112
Administration Building
Riverside, California 92502
 ^{199}Hg
- 32 California, University of
San Francisco Medical Center
San Francisco, California 94122
 ^{40}Ca , ^{48}Ca , ^{113}Cd , ^{87}Rb
- 33 California, University of
Santa Barbara, California 93106
 ^{39}K , ^{41}K , ^7Li , ^{208}Pb , ^{87}Rb , ^{119}Sn
- 34 California, University of
Lawrence Berkeley Laboratory
Berkeley, California 94701
 ^{108}B , ^{40}Ca , ^{41}K , ^6Li , ^{95}Mo , ^{98}Mo ,
 ^{208}Pb , ^{85}Rb , ^{87}Rb , ^{82}Se , ^{148}Sm ,
 ^{150}Sm , ^{152}Sm , ^{124}Sn , SS, Tgs, ^{46}Ti ,
 ^{50}Ti
- 35 California, University of
Lawrence Livermore Laboratory
Box 808
Livermore, California 94550
 ^{118}B , ^{130}Ba , ^{140}Ce , ^{142}Ce , ^{170}Er , ^{54}Fe ,
 ^{56}Fe , ^{24}Mg , ^{25}Mg , ^{26}Mg , ^{148}Nd , ^{58}Ni ,
 ^{186}Os , ^{187}Os , ^{188}Os , ^{106}Pd , ^{85}Rb ,
 ^{101}Ru , ^{144}Sm , ^{152}Sm , ^{154}Sm , ^{88}Sr , SS,
Tgs, ^{176}Yb
- 36 California, University of
Los Alamos Scientific Laboratory
Post Office Box 1663
Los Alamos, New Mexico 87544
 ^{40}Ca , ^{44}Ca , ^{46}Ca , ^{50}Cr , ^{63}Cu , ^{65}Cu ,
 ^{56}Fe , ^{154}Gd , ^{191}Ir , ^{193}Ir , ^{39}K , ^{40}K ,
 ^{41}K , ^6Li , ^7Li , ^{175}Lu , ^{92}Mo , ^{146}Nd ,
 ^{60}Ni , ^{61}Ni , ^{62}Ni , ^{64}Ni , ^{186}Os ,
 ^{192}Os , ^{208}Pb , ^{206}Pb , ^{192}Pt , ^{194}Pt ,
 ^{195}Pt , ^{196}Pt , ^{85}Rb , ^{104}Ru , ^{28}Si ,
 ^{112}Sn , ^{116}Sn , ^{124}Sn , ^{84}Sr , ^{86}Sr ,
 ^{87}Sr , SS, ^{125}Te , Tgs, ^{46}Ti , ^{49}Ti ,
 ^{50}Ti , ^{203}Tl , ^{205}Tl , ^{184}W , ^{168}Yb ,
 ^{66}Zn , ^{70}Zn , ^{90}Zr , ^{91}Zr , ^{96}Zr
- 37 Carnegie Institution of Washington
Washington, D. C. 20008
 ^6Li , ^7Li
- 38 Carnegie-Mellon University
5000 Forbes
Pittsburgh, Pennsylvania 15213
 ^{40}Ca , ^{100}Mo , ^{146}Nd , ^{108}Pd , ^{144}Sm ,
 ^{154}Sm , ^{116}Sn , SS, ^{48}Ti , ^{176}Yb
- 39 Catholic University of America
104 McCort-Ward Hall
Washington, D. C. 20017
 ^{56}Fe , ^6Li
- 40 Chicago, University of
1160 East 55th Street
Chicago, Illinois 60616
 ^{35}Cl , ^{63}Cu , ^{166}Er , ^{144}Nd , ^{208}Pb , SS
- 41 Cincinnati, University of
Cincinnati, Ohio 45221
 ^{63}Cu , ^{57}Fe , ^{72}Ge , ^{201}Hg , ^{143}Nd ,
 ^{146}Nd , ^{110}Pd , ^{196}Pt , ^{125}Te , ^{126}Te ,
 ^{130}Te
- 42 City of Hope Medical Center
1500 E. Duarte Road
Duarte, California 91010
 ^{42}Ca

43 Clark University
Worcester, Massachusetts 01610

^{63}Cu

44 College of William and Mary
Williamsburg, Virginia 23185

^{120}Te , ^{125}Te , ^{126}Te , ^{47}Ti , ^{48}Ti , ^{49}Ti

45 Colorado School of Mines
Post Office Box 112
Golden, Colorado 80402

^6Li , ^7Li

46 Colorado State University
Fort Collins, Colorado 80521

^{76}Ge

47 Colorado, University of
Boulder, Colorado 80302

^{40}Ca , ^{111}Cd , ^{35}Cl , ^{54}Fe , ^{198}Hg ,
 ^{200}Hg , ^{202}Hg , ^{204}Hg , ^{113}In , ^{24}Mg ,
 ^{98}Mo , ^{58}Ni , ^{208}Pb , ^{209}Pb , ^{195}Pt ,
 ^{196}Pt , ^{80}Se , ^{86}Sr , ^{32}S , ^{122}Te , ^{124}Te ,
 ^{125}Te , ^{130}Te , ^{199}Tm , ^{203}Tl , ^{205}Tl ,
 ^{90}Zr

48 Columbia University
Box 6, Low Library
New York, New York 10027

^{150}Nd , ^{182}W

49 Commercial Testing and Engineering Company
Instrumental Analysis Division
14335 West 44th Avenue
Golden, Colorado 80401

^{135}Ba , ^{43}Ca , ^{54}Fe , ^{24}Mg , ^{97}Mo , ^{117}Sn ,
 ^{90}Ti

50 Connecticut, University of
Physical Sciences Bldg.
Storrs, Connecticut 06268

^{10}B , ^{56}Fe , ^6Li , ^{25}Mg , ^{32}S

51 Consolidated Edison
4 Irving Place
New York, New York 10003

^7Li

52 Cornell University
Ithaca, New York 14850

^{56}Fe , ^{24}Mg

53 Corning Glass Works
Houghton Park
Corning, New York 14830

^{42}Ca , ^{50}Cr , ^{53}Cr , ^{54}Fe , ^{25}Mg , ^{62}Ni ,
 ^{47}Ti , ^{50}Ti

54 Cyclotron Corporation
950 Gilman Street
Berkeley, California 94710

^{199}Tm

55 Disc Corporation
7 Clarks Hill Avenue
Stamford, Connecticut 06902

^{106}Cd

56 Dresser Atlas
Division of Dresser Industries, Inc.
P. O. Box 1407
Houston, Texas 77001

^{10}B

57 Du Pont de Nemours and Company, E. I.
Savannah River Plant
Aiken, South Carolina 29801

^{90}K , ^{150}Nd , ^{47}Zn

58 Duke University
Durham, North Carolina 27708

^{10}B , ^{11}B , ^6Li , ^{95}Mo , ^{62}Ni , ^{199}Tm ,
 ^{48}Ti , ^{64}Zn , ^{66}Zn

59 Eagle-Picher Industries, Inc.
Miami, Oklahoma 74354

^7Li

60 Eastman Kodak Company
Kodak Park Works
Rochester, New York 14650

^{111}Cd , ^{61}Ni , ^{207}Pb , ^{195}Pt

61 Efratom California, Inc.
3303 Harbor Blvd.
Costa Mesa, California 92626

^{85}Rh , ^{87}Rb

62 Emory University
Atlanta, Georgia 30322

^{57}Fe , ^{32}S , ^{62}Zn

63 Florida Power and Light Company
P. O. Box 950
Miami, Florida 33101

^7Li

64 Florida State University
Tallahassee, Florida 32306

^{81}Br , ^{40}Ca , ^{44}Ca , ^{142}Ce , ^{161}Dy , ^{167}Er ,
 ^{151}Eu , ^{155}Gd , ^{176}Hf , ^{176}Lu , ^{24}Mg ,
 ^{25}Mg , ^{26}Mg , ^{100}Mo , ^{145}Nd , ^{32}S , ^{28}Si ,
 ^{149}Sm , ^{47}Ti , ^{49}Ti , ^{171}Yb , ^{64}Zn ,
 ^{66}Zn , ^{68}Zn

65 Florida, University of
Gainesville, Florida 32601

^{199}Tm , ^{90}Zr

66 Ford Motor Company
21500 Oakwood Boulevard
Dearborn, Michigan 48124

^{57}Fe

- 67 General Electric Company
Post Office Box 254
San Jose, California 95103
107Ag, 132Ba, 50Cr, 50Fe, SS
- 68 General Electric Company
Development Center
P. O. Box 8
Schenectady, New York 12301
108
- 69 George Mason University
10675 Lee Highway
Fairfax, Virginia 22030
87Rb
- 70 Georgia Institute of Technology
225 North Avenue, N.W.
Atlanta, Georgia 30332
179Hf, 150Nd, 108Pd, 110Pd, 173Yb
- 71 Georgia State College
33 Gilmer Street, S. W.
Atlanta, Georgia 30303
110Cd, 100Hf
- 72 Georgia, University of
Athens, Georgia 30601
Tgs
- 73 Gulf Energy and Environmental Systems
P. O. Box 608
San Diego, California 92112
7Li
- 74 Harshaw Chemical Company
Division of Kewanee Oil Company
6801 Cochran Road
Solon, Ohio 44139
6Li, 7Li
- 75 Harvard University
Cambridge, Massachusetts 02138
135Ba, SS
- 76 Herbert Lehman College of the City University
of New York
Bedford Park Boulevard West
Bronx, New York 10468
128Te, 180W, 66Zn
- 77 Hewlett Packard Company
1501 Page Mill Road
Palo Alto, California 94304
198Hg, 200Hg, 87Rb, SS
- 78 Hope College
Holland, Michigan 49423
108
- 79 Howard University
2401 6th Street
Washington, D. C. 20001
111Cd
- 80 Hughes Aircraft Company
Research Laboratories
3011 Malibu Canyon Road
Malibu, California 90265
99Ru
- 81 ICN-NBCo
26201 Miles Road
Cleveland, Ohio 44128
130Ba, 151Eu
- 82 Illinois, University of
203 Administration Building E
Urbana, Illinois 61803
40Ca, 35Cl, 50Fe, 92Mo, 32S, 33S,
34S, 77Se, SS, 67Zn
- 83 Illinois, University of
P. O. Box 4348
Chicago, Illinois 60680
25Mg
- 84 Indiana University
Bloomington, Indiana 47401
108, 40Ca, 100Cd, 50Fe, 56Fe, 39K,
41K, 6Li, 20Mg, 50Ni, 60Ni, 62Ni,
208Pb, 85Rb, 87Rb, 29Si, 30Si, SS,
Tgs, 180W
- 85 Indiana and Michigan Power Company
Donald C. Cook Nuclear Plant
P. O. Box 458
Bridgman, Michigan 49106
7Li
- 86 Intelcom Rad Tech
P. O. Box 80817
San Diego, California 92138
108, 6Li
- 87 International Business Machines Corp.
Post Office Box 218
Yorktown Heights, New York 10598
57Fe
- 88 Iowa State University
Ames, Iowa 50010
50Fe, 200Hg
- 89 Ithaca College
Ithaca, New York 14850
57Fe
- 90 Johns Hopkins University
Baltimore, Maryland 21218
50Fe

- 91 Kansas State University
Manhattan, Kansas 66502
 ^{24}Mg , Tgs
- 92 Kentucky, University of
Lexington, Kentucky 40506
 ^{56}Fe , ^{140}Nd , ^{58}Ni , ^{180}Os , ^{140}Sm ,
 ^{150}Sm , ^{152}Sm , ^{116}Sn , SS, Tgs
- 93 Loras College
Dubuque, Iowa 52001
 ^{63}Cu , ^{65}Cu , ^{54}Fe
- 94 Louisiana State University
Nuclear Science Center
Baton Rouge, Louisiana 70803
 ^{40}Ca , ^{6}Li , ^{88}Sr , Tgs
- 95 MDH Industries, Inc.
426 W. Duarte Road
Monrovia, California 91016
 ^6Li
- 96 Mallinckrodt Chemical Works
3600 N. Second Street
St. Louis, Missouri 63160
 ^{76}Se
- 97 Maryland, University of
College Park, Maryland 20742
 ^{110}Cd , ^{63}Cu , ^{115}In , ^6Li , ^{208}Pb ,
 ^{28}Si , ^{140}Sm , ^{150}Sm , ^{152}Sm , ^{154}Sm , SS,
 ^{90}Zr
- 98 Massachusetts General Hospital
Isotope Laboratory
Boston, Massachusetts 02114
 ^{40}Ca , SS
- 99 Massachusetts Institute of Technology
Box G9
Cambridge, Massachusetts 02139
 ^{135}Ba , ^{137}Ba , ^{138}Ba , ^{167}Er , ^{56}Fe ,
 ^{115}In , ^{39}K , ^{175}Lu , ^{24}Mg , ^{26}Mg , ^{143}Nd ,
 ^{140}Nd , ^{58}Ni , ^{190}Os , ^{30}Si ,
 ^{140}Sm , ^{140}Sm , Tgs, ^{182}W , ^{184}W , ^{170}Yb ,
 ^{172}Yb , ^{173}Yb , ^{174}Yb
- 100 Massachusetts, University of
Amherst, Massachusetts 01002
 ^{42}Ca , SS, Tgs
- 101 Medical College of Wisconsin
8700 W. Wisconsin Avenue
Milwaukee, Wisconsin 53226
 ^{113}Cd , ^{114}Cd , ^{63}Cu , ^{87}Sr , ^{67}Zn
- 102 Medi-Physics, Inc.
5855 Christie Avenue
Emeryville, California 94608
 ^{112}Cd , ^{122}Te , ^{124}Te , ^{68}Zn
- 103 Medi-Physics, Inc.
900 Durham Avenue
South Plainfield, New Jersey 07080
 ^{122}Te , ^{68}Zn
- 104 Miami University
Oxford, Ohio 45056
 ^{88}Sr
- 105 Michigan State University
East Lansing, Michigan 48823
 ^{39}K , ^{142}Nd , ^{140}Nd , ^{33}S , ^{34}S , ^{80}Se ,
 ^{82}Se , ^{29}Si , ^{30}Si , ^{118}Sn , SS
- 106 Michigan, University of
Ann Arbor, Michigan 48104
 ^{35}Cl , ^{37}Cl , ^{65}Cu , ^{57}Fe , ^{119}Sn ,
 ^{122}Sn , ^{124}Sn , ^{68}Zn , ^{67}Zn
- 107 MicroMatter Company
197 - 34th Avenue East
Seattle, Washington 98102
 ^{24}Mg , ^{208}Pb , ^{150}Sm , ^{152}Sm , ^{120}Sn ,
SS, Tgs, ^{92}Zr
- 108 Microfoils
P. O. Box 283
Argonne, Illinois 60439
 ^{208}Pb , ^{118}Sn , ^{120}Sn , SS, Tgs, ^{49}Ti ,
 ^{64}Zn , ^{67}Zn
- 109 Minnesota, University of
402 Morrill Hall
Minneapolis, Minnesota 55455
 ^{134}Ba , ^{136}Ba , ^{199}Hg , ^{208}Pb , ^{30}Si ,
 ^{117}Sn , SS
- 110 Missouri, University of
Columbia, Missouri 65201
 ^{56}Fe , ^{122}Te , ^{126}Te
- 111 National Bureau of Standards
Connecticut Avenue and Van Ness Street, N.W.
Washington, D. C. 20234
 ^{137}Ba , ^{50}Cr , ^{52}Cr , ^{54}Fe , ^{56}Fe ,
 ^{201}Hg , ^{115}In , ^{140}Nd , ^{123}Sb , SS, Tgs,
 ^{203}Tl
- 112 New England Nuclear Corporation
575 Albany Street
Boston, Massachusetts 02118
 ^{107}Ag , ^{40}Ca , ^{114}Cd , ^{50}Cr , ^{54}Fe ,
 ^{56}Fe , ^{41}K , ^{62}Ni , ^{106}Pd , ^{124}Sn , ^{126}Te ,
Tgs, ^{203}Tl , ^{180}W
- 113 New Jersey, College of Medicine and Dentistry
100 Bergen Street
Newark, New Jersey 07103
 ^{107}Ag

- 114 New Mexico, University of
Albuquerque, New Mexico 87103
 ^{87}Rb
- 115 New York University Medical Center
550 First Avenue
New York, New York 10016
 ^6Li , ^7Li
- 116 New York, State University of
3435 Main Street
Buffalo, New York 14214
 ^{63}Cu , ^{65}Cu , ^{161}Dy , ^{167}Er , ^{151}Eu ,
 ^{145}Nd , ^{149}Sm , ^{171}Yb
- 117 New York, State University of
Research Foundation
Stony Brook, New York 11790
 ^{106}Cd , ^{166}Er , ^{58}Fe , ^6Li , ^{145}Nd ,
 ^{150}Nd , ^{108}Pd , ^{195}Pt , ^{196}Pt , ^{88}Sr ,
Tgs
- 118 North Carolina State University
P. O. Box 5935
Raleigh, North Carolina 27607
 ^{41}K , ^{30}Si , SS, Tgs
- 119 North Carolina, University of
Chapel Hill, North Carolina 27514
 ^{35}Cl , SS, ^{125}Te
- 120 Northeast Utilities Service Company
P. O. Box 270
Hartford, Connecticut 06101
 ^7Li
- 121 Northern Illinois University
Box 185
DeKalb, Illinois 60115
 ^{143}Nd , SS, ^{183}W
- 122 Northern States Power Company
414 Nicollet Mall
Minneapolis, Minnesota 55401
 ^7Li
- 123 Northwestern University
619 Clark Street
Evanston, Illinois 60201
 ^{40}Ca , ^{43}Ca , ^{44}Ca , Tgs
- 124 Notre Dame, University of
Notre Dame, Indiana 46556
 ^{107}Ag , ^{109}Ag , ^{110}Cd , ^{111}Cd , ^{113}Cd ,
 ^{70}Ge , ^{72}Ge , ^{74}Ge , ^{76}Ge , ^{208}Pb ,
 ^{76}Se , ^{78}Se , ^{80}Se , ^{82}Se , ^{28}Si , Tgs
- 125 Oak Ridge Technical Enterprises Corporation
102 Midland Road
Oak Ridge, Tennessee 37830
Tgs
- 126 Oberlin College
Oberlin, Ohio 44074
 ^6Li , ^7Li
- 127 Ohio State University
Research Foundation
1314 Kinnear Road
Columbus, Ohio 43212
 ^{11}B , ^{12}C , ^6Li
- 128 Ohio University
Athens, Ohio 45701
 ^6Li , ^7Li , ^{88}Sr , SS, Tgs
- 129 Oregon State University
Corvallis, Oregon 97330
 ^{130}Ba , ^{148}Nd , ^{149}Sm , ^{176}Yb , ^{70}Zn ,
 ^{96}Zr
- 130 Oregon, University of
Eugene, Oregon 97403
 ^{58}Ni , ^{60}Ni , Tgs
- 131 Pacific Gas and Electric Company
P. O. Box 7760
San Francisco, California 94120
 ^7Li
- 132 Pacific Northwest Laboratory
Richland, Washington 99352
 ^{142}Ce , ^{148}Nd , ^{96}Ru , ^{152}Sm , ^{176}Yb
- 133 Pennsylvania State University
University Park, Pennsylvania 16802
 ^{57}Fe
- 134 Pennsylvania, University of
3025 Walnut Street
Philadelphia, Pennsylvania 19104
 ^{70}Ge , ^{39}K , ^7Li , ^{25}Mg , ^{110}Pd , ^{85}Rb ,
 ^{104}Ru , ^{76}Se , ^{77}Se , ^{78}Se , ^{80}Se ,
 ^{82}Se , ^{122}Sn , ^{124}Sn , Tgs
- 135 Pittsburgh, University of
Pittsburgh, Pennsylvania 15213
 ^{42}Ca , ^{50}Cr , ^{162}Er , ^{164}Er , ^{166}Er ,
 ^{168}Er , ^{188}Os , ^{190}Os , ^{99}Ru , ^{100}Ru ,
 ^{101}Ru , ^{102}Ru , ^{104}Ru , ^{32}S , ^{28}Si , ^{30}Si ,
SS, Tgs
- 136 Princeton University
James Forrestal Campus
Princeton, New Jersey 08540
 ^{63}Cu , ^{65}Cu , ^{54}Fe , ^6Li , ^{29}Si , ^{30}Si ,
 ^{70}Zn
- 137 Purdue University
Pharmacy Annex
Lafayette, Indiana 47907
 ^{170}Er , ^{191}Ir , ^7Li , ^{160}Os , Tgs

- 138 Reactor Experiments, Inc.
963 Terminal Way
San Carlos, California 94070

108
- 139 Reed College
3203 S. E. Woodstock Boulevard
Portland, Oregon 97202

76Ge, 76Se
- 140 Rhode Island, University of
Narragansett Marine Laboratory
Kingston, Rhode Island 02881

160Gd, Tgs
- 141 Rochester, University of
575 Elmwood Avenue
Rochester, New York 14627

134Ba, 136Ba, 138Ba, 81Br, 140Ce,
142Ce, 76Ge, 6Li, 142Nd, 144Nd, 146Nd,
58Ni, 186Os, 188Os, 190Os, 192Os,
196Pt, 82Se, 29Si, 144Sm, 148Sm,
128Te, 102W, 184W, 186W
- 142 Rohm and Haas Company
Independence Mall West
Philadelphia, Pennsylvania 19105

7Li
- 143 Rutgers, The State University
New Brunswick, New Jersey 08903

107Ag, 130Ba, 132Ba, 134Ba, 136Ba,
54Fe, 58Fe, 156Gd, 102Pd, 76Se,
77Se, 78Se, 80Se, 82Se, 112Sn,
114Sn, 67Zn, 68Zn, 70Zn
- 144 SAI Technologies
4050 Sorrento Valley Boulevard
San Diego, California 92121

6Li
- 145 Sandia Corporation
Post Office Box 5800
Albuquerque, New Mexico 87115

6Li, 40Mo, 100Mo, 58Ni, 61Ni,
62Ni
- 146 Smithsonian Institution
10th Street and Constitution Avenue N. W.
Washington, D. C. 20560

Tgs
- 147 South Carolina, University of
Columbia, South Carolina 29208

48Ca, SS, Tgs
- 148 Southern California, University of
University Park
Los Angeles, California 90007

79Br, 81Br
- 149 Southern Methodist University
Purchasing Department
Dallas, Texas 75275

114Cd, 92Mo, 208Pb, 120Sn, 86Sr,
130Te, 203Tl
- 150 Spectra-Mat, Inc.
1240 Highway 1
Watsonville, California 95076

6Li, 7Li
- 151 Spectra-Physics, Inc.
1250 W. Middlefield Road
Mountain View, California 94040

114Cd, SS
- 152 Stanford University
P. O. Box 4409
Stanford, California 94305

107Ag, 11B, 200Hg, 41K, 24Mg, 85Rb,
170Yb
- 153 Syracuse University
150 Marshall Street
Syracuse, New York 13210

67Zn
- 154 Teledyne Isotopes
123 Woodland Avenue
Westwood, New Jersey 07675

208Pb
- 155 Tennessee, University of
Knoxville, Tennessee 37916

Tgs
- 156 Texas A and M University
Post Office Box 44
College Station, Texas 77843

40Ca, 153Eu, 154Gd, 72Ge, 6Li, 150Nd,
60Ni, 208Pb, 32S, 123Sb, 76Se,
148Sm, 114Sn, 117Sn, 119Sn, 120Sn,
128Te, 130Te, 80Ti, 64Zn, 66Zn
- 157 Toledo Edison Company and
Cleveland Electric Illuminating Company
5501 North State Route No. 2
Oak Harbor, Ohio 43449

7Li
- 158 U. S. ERDA
Morgantown Energy Research Center
Collins Ferry Road
Morgantown, West Virginia 26505

6Li, Tgs
- 159 U. S. Energy Research and Development Administration
Purchasing Office
4800 Forbes Avenue
Pittsburgh, Pennsylvania 15213

53Cr, 208Pb, 68Zn

- 160 U. S. Navy
Director of Supply
Naval Undersea Center
San Diego, California 92132

10B, 6Li, Tgs
- 161 Union Carbide Corporation
Sterling Forest Research Center
Post Office Box 324
Tuxedo, New York 10987

50Cr, 86Sr, SS
- 162 Union Carbide Corporation, Nuclear Division
Oak Ridge National Laboratory
Post Office Box X
Oak Ridge, Tennessee 37830

10B, 11B, 40Ca, 52Cr, 54Cr, 63Cu,
153Eu, 56Fe, 57Fe, 58Fe, 71Ga,
152Gd, 154Gd, 156Gd, 158Gd, 160Gd,
70Ge, 76Ge, 76Ge, 6Li, 7Li, 176Lu,
24Mg, 25Mg, 26Mg, 95Mo, 142Nd, 150Nd,
58Ni, 60Ni, 62Ni, 207Pb, 208Pb,
106Pd, 110Pd, 195Pt, 196Pt, 100Ru,
101Ru, 102Ru, 104Ru, 28Si, 144Sm,
154Sm, 116Sn, 118Sn, 120Sn, SS, 122Te,
126Te, Tgs, 48Ti, 49Ti, 205Tl, 180W,
182W, 70Zn, 90Zr
- 163 Union Carbide Corporation, Nuclear Division
Y-12 Plant
Post Office Box Y
Oak Ridge, Tennessee 37830

137Ba, 116Cd, 65Cu, 170Er, 198Hg,
254My, 150Nd, 209Pb, 87Rb, 149Sm,
49Ti, 67Zn
- 164 United States Army
Armed Forces Radiobiology Research Institute
Defense Nuclear Agency
Bethesda, Maryland 20014

57Fe, Tgs
- 165 United States Department of Agriculture
Research Service
P. O. Box 53326
New Orleans, Louisiana 70150

56Fe, 58Fe
- 166 United States Department of Interior
Geology Survey
Bldg. 21, Denver Federal Center
Denver, Colorado 80225

41K, 6Li, 7Li
- 167 United States Department of Justice
Ninth and Pennsylvania Avenue, N.W.
Washington, D. C. 20535

44Ca, 41K, 26Mg, 78Se, 66Zn
- 168 United States Geological Survey
Financial Management
National Center, Room 1447-A
12201 Sunrise Valley Drive
Reston, Virginia 22092

6Li, 7Li, 189Os, 190Os, 85Rb,
87Rb, 185Re
- 169 United States National Aeronautics and Space Adm.
Lewis Research Center
21000 Brookpark Road
Cleveland, Ohio 44135

157Gd, 160Gd, 189Os, 149Sm, 119Sn,
Tgs, 203Tl, 182W
- 170 United States National Aeronautics and Space Adm.
Goddard Space Flight Center
Glendale Road
Greenbelt, Maryland 20771

199Hg, 202Hg
- 171 United States National Aeronautics and Space Adm.
Langley Research Center
Langley Station
Hampton, Virginia 23365

102Pd, 102Ru
- 172 United States National Aeronautics and Space Adm.
Ames Research Center
Moffett Field, California 94035

40Ca, 44Ca
- 173 United States Navy
Naval Research Laboratory
Washington, D. C. 20390

151Eu, SS
- 174 United States Public Health Service
National Institutes of Health, Isotope Laboratory
Building 21
Bethesda, Maryland 20014

44Ca, 46Ca, 111Cd, 63Cu, 65Cu,
199Hg, 77Se, 119Sn, 205Tl, 70Zn
- 175 Universal Oil Products Company
30 Algonquin Road
Des Plaines, Illinois 60016

6Li
- 176 University of Connecticut
Health Center
Farmington, Connecticut 06032

106Cd, 111Cd, 114Cd
- 177 University of Lowell
Lowell, Massachusetts 01854

160Dy
- 178 Utah, University of
Purchasing Department
Salt Lake City, Utah 84112

63Cu, 65Cu
- 179 Vanderbilt University
Business Managers Office
Nashville, Tennessee 37203

81Br, 35Cl, SS

- 180 Various Miscellaneous Billings
Domestic

^{63}Cu , ^{65}Cu , Tgs

- 181 Veterans Administration Hospital
3801 Junipero Serra Blvd.
Palo Alto, California 94304

^{40}Ca

- 182 Virginia Electric and Power Company
P. O. Box 1194
Richmond, Virginia 23209

^7Li

- 183 Virginia Polytechnic Institute
Blacksburg, Virginia 24061

^{140}Nd , ^{190}Os , ^{187}Re , ^{147}Sm , Tgs

- 184 Virginia, University of
Charlottesville, Virginia 22903

^{107}Ag , ^{109}Ag , ^{110}B , ^{113}Cd , ^{199}Hg ,
 ^{24}Mg , ^{152}Sm , Tgs

- 185 Washington State University
Comptroller's Office
Pullman, Washington 99163

^{113}Cd

- 186 Washington, University of
400 Administration Building
Seattle, Washington 98106

^{10}B , ^{63}Cu , ^{56}Fe , ^{24}Mg , ^{58}Ni , ^{208}Pb ,
SS, Tgs

- 187 West Virginia University
Administration Building
Morgantown, West Virginia 26506

^{57}Fe

- 188 Western Michigan University
Kalamazoo, Michigan 49001

^{142}Nd , ^{144}Nd , ^{146}Nd , SS

- 189 Westinghouse Electric Corporation
Bettis Atomic Power Laboratory
Post Office Box 79
West Mifflin, Pennsylvania 15103

^{55}Cr , ^{151}Eu , ^{159}Eu , ^{109}Mo , ^{61}Ni , ^{34}S ,
Tgs

- 190 Westinghouse Electric Corporation
Post Office Box 284
Elmira, New York 14902

^6Li

- 191 Westinghouse Electric Corporation
Atomic Power Divisions
P. O. Box 355
Pittsburgh, Pennsylvania 15230

^7Li

- 192 Westinghouse Hanford Company
P. O. Box 1970
Richland, Washington 99352

Tgs

- 193 Wisconsin, University of
750 University Avenue
Madison, Wisconsin 53706

^{134}Ba , ^{63}Cu , ^6Li , ^{24}Mg , ^{24}Mg , ^{95}Mo ,
 ^{95}Mo , ^{96}Ru , ^{66}Zn , ^{66}Zn , ^{66}Zn

- 194 Woods Hole Oceanographic Institute
Woods Hole, Massachusetts 02543

^{29}Si , ^{30}Si

- 195 Yale University
20 Ashmun Street
New Haven, Connecticut 06520

^{42}Ca , ^{40}Ca , ^{113}Cd , ^6Li , ^{28}Si , ^{28}Si ,
Tgs, ^{103}W , ^{67}Zn

- 196 Yeshiva University
1300 Morris Park Avenue
Bronx, New York 10461

^{63}Cu

B. FOREIGN

ARGENTINA

- 197 Comision Nacional de Energia Atomica
Gerencia de Energia
Avda. del Libertador 8250
Buenos Aires, Argentina

^{109}Ag , ^{108}B , ^{54}Cr , ^{63}Cu , ^{95}Mo ,
 ^{97}Mo , ^{142}Nd , ^{143}Nd , ^{144}Nd , ^{145}Nd ,
 ^{146}Nd , ^{147}Nd , ^{150}Nd , ^{62}Ni , ^{208}Pb

AUSTRALIA

- 198 Australian Consulate General
636 Fifth Avenue
New York, New York 10020

^{208}Pb

- 199 Australian National University
P. O. Box 4
Canberra, A. C. T., Australia

^{134}Ba , ^{135}Ba , ^{138}Ba , ^{162}Dy , ^{160}Er ,
 ^{179}Er , ^{151}Eu , ^{159}Eu , ^{201}Hg , ^6Li ,
 ^{95}Mo , ^{150}Nd , ^{106}Pd , ^{106}Pd , ^{106}Pd ,
 ^{110}Pd , ^{76}Se , ^{80}Se , ^{82}Se , ^{30}Si ,
 ^{144}Sm , ^{147}Sm , ^{149}Sm , ^{150}Sm , ^{152}Sm ,
 ^{116}Sn , ^{120}Sn , ^{122}Sn , SS, Tgs

- 200 Commonwealth Scientific and Ind. Res. Organization
Division of Applied Physics
University Grounds, City Road, Chippendale N.

Sydney, N. S. W., Australia

^{138}La , ^{174}Lu , ^{87}Rb

- 201 Melbourne, University of
Parkville N.2, Melbourne
Victoria, Australia

^{40}Ca , ^{37}Cl , ^{54}Cr , ^{63}Cu , ^{56}Fe , ^{24}Mg ,
 ^{24}Mg , ^{196}Pt , ^{34}S , SS, Tgs, ^{50}Ti

202 Monash University
Wellington Road
Clayton, Victoria, Australia

160Dy, 166Er

203 Western Australian Institute of Technology
Hayman Road
Bentley South 6102
Western Australia

175Lu

AUSTRIA

204 International Atomic Energy Agency
Kaerntnerring 11-13
A-1010 Vienna, Austria

135Ba, 136Ba, 137Ba, 156Gd, 157Gd,
158Gd, 191Ir, 6Li, 7Li, 24Mg, 25Mg,
26Mg, 150Nd, 186Os, 190Os, 108Pd,
Tgs

BELGIUM

205 Centre d'Etude de l'Energie Nucleaire
144 Avenue Plasky
Brussels 4, Belgium

152Gd

206 European Atomic Energy Commission
Central Bureau for Nuclear Measurements
Geel, Belgium

50Cr, 52Cr, 151Eu, 54Fe, 56Fe,
57Fe, SS, Tgs

207 IRE, Institut National des Radioelements
Avenue Eugene Plasky, 144
1040 Brussels, Belgium

79Br, 81Br, 202Hg, SS

208 Liege, Universite de
2 rue Armand Stevart
Liege, Belgium

92Mo

209 Louvain, Universite de
Parc D'Arenberg
Haverle Louvain, Belgium

6Li, 7Li, 148Nd, 150Nd, 187Os,
110Pd, 154Sm, 120Te, 124Te, 128Te

BRAZIL

210 Empresas Nucleares Brasileiras S/A - Nuclebras
Rua General Polidoro
316 - Rio de Janeiro (RJ)
Brazil

92Mo, 142Nd

211 Governo Federal, Conselho Nacional de Pesquisas
Instituto de Energia Atomica
Caixa Postal 11049
Sao Paulo 9, S. P. A., Brazil

112Sn, SS, Tgs

212 Hospital das Clinicas da Faculdade
de Medicina da Universidade de Sao Paulo
Sao Paulo, Brazil

136Ba, 142Ce, 143Nd

CANADA

213 Atomic Energy of Canada Limited
P. O. Box 6300
Postal Station J
Ottawa, Canada

50Cr

214 Atomic Energy of Canada Limited
Chalk River, Ontario, Canada

10B, 11B, 42Ca, 111Cd, 63Cu, 65Cu,
151Eu, 153Eu, 76Ge, 199Hg, 200Hg,
201Hg, 41K, 7Li, 24Mg, 58Ni, 60Ni,
206Pb, 110Pd, 96Ru, 76Se, 78Se,
82Se, 86Sr, SS, Tgs, 170Yb, 172Yb,
174Yb, 176Yb, 90Zr, 91Zr, 92Zr,
94Zr, 96Zr

215 Atomic Energy of Canada Limited
Whiteshell Nuclear Research Establishment
Pinawa, Manitoba, Canada

108

216 British Columbia, University of
Vancouver 8, B.C., Canada

35Cl, 208Pb

217 Dalhousie University
Halifax, Nova Scotia
Canada

161Dy, 163Dy, 160Gd, 192Os, 196Pt,
119Sn

218 Guelph, University of
Guelph, Ontario, Canada

102Ru

219 Health Sciences Centre
791 Notre Dame Avenue
Winnipeg, Manitoba, Canada R3E 0M1

124Te

220 McGill University
Montreal 2, P.Q., Canada

130Ba, 79Br, 81Br, 144Sm, 122Sn, 124Sn

221 McMaster University
Hamilton, Ontario, Canada

10B, 136Ba, 140Ce, 142Ce, 161Dy,
163Dy, 164Dy, 162Er, 164Er, 166Er,
168Er, 170Er, 151Eu, 54Fe, 178Hf,
142Nd, 144Nd, 146Nd, 148Nd, 150Nd,
76Se, 77Se, 78Se, 80Se, 82Se,
144Sm, 146Sm, SS, Tgs, 50Ti, 172Yb,
174Yb, 84Zn, 92Zr

222 McMaster University, Medical Center
Forsythe Avenue
Hamilton, Ontario, Canada

150Dy, 6Li, 152Sm

223 Merck, Sharp and Dohme
Canada Limited
16711 Trans Canada Highway
Kirkland, Quebec, Canada

^{11}B , ^{43}Ca , ^{25}Mg , ^{77}Se , ^{125}Te

224 Montreal, Universite de
Montreal, Canada

^{52}Cr , ^{96}Ru , ^{98}Ru , ^{99}Ru , ^{100}Ru ,
 ^{102}Ru , ^{104}Ru , ^{74}Se , SS , Tgs , ^{48}Ti

225 National Research Council
Montreal Road Laboratories
Ottawa, Ontario, Canada

^{11}B , ^{81}Br , ^{37}Cl , ^{63}Cu , ^{65}Cu , ^{73}Ge ,
 ^{58}Ni , ^{60}Ni , ^{64}Ni , ^{188}Os , ^{189}Os ,
 ^{190}Os , ^{192}Os , ^{112}Sn

226 Queens University
Kingston, Ontario, Canada

^{40}Ca , ^{115}In , ^{28}Si , ^{117}Sn , SS , ^{92}Zr

227 Saskatchewan, University of
Saskatoon, Saskatchewan, Canada

^{107}Ag , ^{92}Mo , ^{118}Sn , Tgs

228 Scintrex, Ltd.
222 Snidercroft Road
Concord, Ontario, Canada

^{206}Pb , ^{207}Pb , ^{208}Pb , Tgs

229 Simon Fraser University
Burnaby 2, B. C., Canada

^{123}Te , ^{125}Te

230 Toronto, University of
Toronto, Ontario, Canada

^{151}Eu , ^{24}Mg , ^{25}Mg

231 University of Alberta
Edmonton, Alberta, Canada T6G2H1

^{81}Br , ^{41}K , ^{64}Ni , ^{120}Sn , ^{122}Sn

232 University of Calgary
2920-24th Avenue Northwest
Calgary, Alberta, Canada T2N 1N4

^{160}Gd

DENMARK

233 Aarhus, University of
Aarhus C, Denmark

^{134}Ba

234 Atomic Energy Commission
Research Establishment Riso
Isotope Division
Roskilde, Denmark

^{44}Ca , ^{46}Ca

235 Denmark Technical, University of
Lyngby, Denmark

^{57}Fe

236 Kobenhavns Universitet
Blegdamsvej 17
Kobenhavn O, Denmark

^{153}Eu , ^{144}Sm

237 Kobenhavns Universitet
Riso Pr.
Roskilde, Denmark

^{107}Ag , ^{109}Ag , ^{130}Ba , ^{135}Ba , ^{136}Ba ,
 ^{40}Ca , ^{42}Ca , ^{44}Ca , ^{106}Cd , ^{108}Cd ,
 ^{110}Cd , ^{140}Ce , ^{142}Ce , ^{54}Cr , ^{161}Dy ,
 ^{166}Er , ^{56}Fe , ^{154}Gd , ^{156}Gd , ^{158}Gd ,
 ^{160}Gd , ^{76}Ge , ^{92}Mo , ^{94}Mo , ^{95}Mo ,
 ^{96}Mo , ^{97}Mo , ^{100}Mo , ^{142}Nd , ^{143}Nd ,
 ^{144}Nd , ^{146}Nd , ^{148}Nd , ^{60}Ni , ^{62}Ni ,
 ^{64}Ni , ^{104}Pd , ^{106}Pd , ^{108}Pd , ^{110}Pd ,
 ^{100}Ru , ^{101}Ru , ^{102}Ru , ^{104}Ru , ^{28}Si ,
 ^{30}Si , ^{144}Sm , ^{147}Sm , ^{149}Sm , ^{150}Sm ,
 ^{120}Sn , ^{122}Te , ^{124}Te , ^{126}Te , Tgs , ^{176}Yb

ENGLAND

238 Bradford, University of
Bradford 7, England

^{57}Fe

239 British Embassy
3100 Massachusetts Avenue, N. W.
Washington, D. C. 20008

SS , ^{46}Ti , ^{47}Ti , ^{48}Ti , ^{49}Ti , ^{50}Ti

240 Leeds, University of
Leeds 2, England

^{206}Pb , ^{208}Pb

241 Levy West Laboratories, Ltd.
Bush Fair
Harlow, Essex, England

^{6}Li

242 Liverpool, University of
Liverpool 3, England

^{99}Ru , ^{74}Se

243 London, University of
Strand, London W.C.2., England

^{24}Mg

244 Manchester University
Manchester 13, England

^{11}B , ^{137}Ba , ^{40}Ca , ^{106}Cd , ^{160}Gd ,
 ^{144}Nd , ^{146}Nd , ^{148}Nd , ^{192}Os , ^{208}Pb ,
 ^{96}Ru , ^{144}Sm , ^{147}Sm , ^{149}Sm , ^{152}Sm ,
 ^{154}Sm

245 Oxford, University of
Nuclear Physics Laboratory
21 Banbury Road
Oxford, England

Tgs , ^{46}Ti , ^{50}Ti

246 R. E. Swann, Ltd.
109 Fenchurch Street
London, E.C.3, England

142Ce, 37Cl, 167Er, 138La, SS, 171Yb

247 Radiochemical Centre
White Lion Road
Amersham, Bucks, England

40Ca, 50Cr, 58Fe, 152Gd, 196Hg,
58Ni, 62Ni, 74Se, 112Sn, 88Sr, SS,
122Te, 203Tl, 168Yb

248 St. Mary's Hospital Medical School
Norfolk Pl. Paddington
London W2 1PG, England

40Ca

249 United Kingdom Treasury and Supply Delegation
25 Broadway
New York, New York 10004

108, 137Ba, 138Ba, 40Ca, 114Cd, 116Cd,
142Ce, 37Cl, 50Cr, 54Cr, 162Dy,
151Eu, 70Ge, 73Ge, 74Ge, 179Hf,
39K, 41K, 7Li, 142Nd, 144Nd, 148Nd,
150Nd, 58Ni, 62Ni, 64Ni, 208Pb,
28Si, 29Si, 30Si, 144Sm, 147Sm,
150Sm, 119Sn, 122Sn

FRANCE

250 CEA
Department des Radioelements
B. P. No. 2
91190 Gif Sur Yvette, France

100Ag, 43Ca, 48Ca, 52Cr, 53Cr,
168Er, 196Hg, 204Hg, 41K, 139La,
175Lu, 176Lu, 26Mg, 58Ni, 60Ni,
190Os, 106Pd, 108Pd, 194Pt, 104Ru,
30Si, 154Sm, 112Sn, 116Sn, 124Sn, 86Sr,
87Sr, 88Sr, SS, 124Te, 130Te, Tgs,
46Ti, 47Ti, 48Ti, 49Ti, 171Yb, 172Yb,
67Zn, 90Zr, 94Zr, 96Zr

251 CRN, Labo PNPA
B. P. 20/CRO
67 Strasbourg 3, France

109Ag, 140Ce, 162Dy, 24Mg, 25Mg,
26Mg, 94Mo, 62Ni, 98Ru, 99Ru,
128Te, 170Yb, 171Yb

252 Grenoble, Universite de
Grenoble, France

118, 108Pd, 170Yb

253 Institut Max von Laue-Paul Langevin
Cedex 156
38 Grenoble-Gare, France

167Er, 40K, 97Mo, 192Os, 33S, 124Te,
186W, 67Zn

254 Institut de Physique Nucleaire
B. P. No. 1
91 Orsay, France

185Re

255 Institut de Physique Nucleaire de Lyon
43 Boulevard du 11 Novembre 1918
69 Villeurbanne, France

50Cr, 53Cr, Tgs

256 Paris, University of
47 Rue des Ecoles
Paris 5e, France

92Mo, 100Mo, Tgs

257 Universite de Nantes
Chemin de la Houssiniere
44037 Nantes
France

34S

GERMANY

258 American Hoechst Corporation
P. O. Box 2500
Somerville, New Jersey 08876

50Cr, 196Hg, 74Se, 86Sr, SS,
168Yb

259 Bochum, Ruhr-Universitat
463 Bochum, West Germany

108, 35Cl, 7Li

260 Bonn, Universitat
Nussallee 12-14
55 Bonn, Germany

118, 134Ba, 135Ba, 136Ba, 137Ba, 192Pt,
Tgs

261 Buchler and Company
Frankfurter Str. 294
Braunschweig, Germany

108, 42Ca, 43Ca, 44Ca, 46Ca, 35Cl,
37Cl, 201Hg, 204Hg, 58Ni, 60Ni,
61Ni, 62Ni, 64Ni, 208Pb, 209Pb,
105Pd, 195Pt, 196Pt, 34S, SS,
68Zn

262 Darmstadt, Technischen Hochschule
61 Darmstadt, Germany

40Ca, 39K, 41K, 144Sm, 150Sm, 154Sm,
Tgs

263 Deutsches Elektronen-Synchrotron Desy
2000 Hamburg 52, Notkestieg 1
West Germany

57Fe

264 Deutsches Krebsforschungszentrum
Berliner Str. 21
6900 Heidelberg, Germany

122Te

265 Erlangen-Nurnberg, University
Gluckstr.
862 Erlangen, West Germany

40Ca, 24Mg, 26Mg, SS, 67Zn

- 266 Freiburg/Brsg., Universität
7800 Freiburg/Brsg., Germany
 ^{37}Cl , SS
- 267 Freie Universität
1 Berlin 33, Germany
 ^{160}Er , ^{160}Gd , ^{206}Pb , ^{112}Sn , ^{114}Sn ,
 ^{117}Sn , ^{118}Sn , ^{119}Sn , ^{125}Te , ^{128}Te ,
 ^{130}Te , Tgs, ^{203}Tl
- 268 Freie und Hansestadt Hamburg
2 Hamburg-Banrendorf, Germany
 ^{108}B , ^{150}Dy , ^{163}Dy , ^{162}Er , ^{160}Er ,
 ^{151}Eu , ^{152}Gd , ^{156}Gd , ^{160}Gd , ^{177}Hf ,
 ^{180}Hf , ^{191}Ir , ^{193}Ir , ^{143}Nd , ^{145}Nd ,
 ^{147}Sm , ^{149}Sm , ^{151}Sm , ^{147}Zr
- 269 GWK-Gesellschaft zur Wiederaufbereitung von Kernb
D-7051 Leopoldshafen, West Germany
 ^6Li , ^{26}Mg
- 270 Gesamthochschule Wuppertal
FB9 - Prof. Burger
Gewerbeschulstr. 34
D-5600 Wuppertal 2
West Germany
 ^{79}Br , ^{35}Cl , ^{36}S
- 271 Gesellschaft für Kernforschung mbH
Institute fuer Angewandte Reaktor Physik
Weberstrasse 5
75 Karlsruhe
West Germany
 ^{10}B , ^{130}Ba , ^{132}Ba , ^{136}Ba , ^{40}Ca , ^{110}Cd ,
 ^{140}Ce , ^{56}Fe , ^{155}Gd , ^6Li , ^{26}Mg ,
 ^{206}Pb , ^{84}Sr , SS, ^{124}Te , Tgs, ^{90}Zr
- 272 Gesellschaft für Schwerionenforschung mbH
TargetLabor
Postfach 541
D-6100 Darmstadt, West Germany
 ^{150}Dy , ^{24}Mg , ^{25}Mg , ^{26}Mg , ^{60}Ni ,
 ^{206}Pb , ^{207}Pb , ^{208}Pb , ^{106}Pd , ^{194}Pt ,
SS, Tgs, ^{90}Zr
- 273 Giessen, Universität
6300 Giessen, Germany
 ^{204}Hg , ^6Li , ^7Li , ^{30}Si , SS, ^{182}W ,
 ^{184}W , ^{186}W
- 274 Hahn-Meitner-Institut
für Kernforschung Berlin, Sektion Kernphysik
Berlin, Germany
 ^{180}Hf , ^{199}Hg , ^{200}Hg , ^{143}Nd , ^{206}Pb ,
 ^{206}Pb , ^{207}Pb , ^{208}Pb , ^{106}Pd , ^{110}Pd ,
 ^{87}Rb , ^{91}Zr
- 275 Heidelberg, Universität
Heidelberg, Germany
 ^6Li , ^{206}Pb , ^{110}Pd , Tgs
- 276 Institut für Elektrowerkstoffe
Eckerstrasse 4
78 Freiburg, West Germany
 ^{11}B , ^{73}Ge , ^{61}Ni , ^{33}S , ^{29}Si , ^{119}Sn
- 277 Isotopen-Laboratorium
Harffstr. 148
Düsseldorf-Eller
West Germany
 ^{108}B
- 278 Johann Wolfgang Goethe University
Frankfurt/Main, Germany
 ^{57}Fe , ^{156}Gd , ^{70}Ge , ^7Li , ^{206}Pb ,
 ^{194}Pt , ^{196}Pt , ^{152}Sm , Tgs, ^{66}Zn
- 279 Karlsruhe, der Universität
Engesserstrasse 7
75 Karlsruhe, West Germany
 ^{43}Ca
- 280 Kernforschung Sanlage
Postfach 365
517 Jülich, Germany
 ^{135}Ba , ^{136}Ba , ^{40}Ca , ^{140}Er , ^{153}Eu ,
 ^{152}Gd , ^{191}Ir , ^{193}Ir , ^7Li , ^{206}Pb ,
 ^{207}Pb , ^{100}Ru , ^{101}Ru , ^{102}Ru , ^{104}Ru ,
 ^{124}Te , ^{168}Yb
- 281 Kiel Universität
2057 Geesthacht Reactorstation
23 Kiel, Germany
 ^{106}Cd
- 282 Köln, Universität
Zulpicher Str. 47
5 Köln 1, Germany
 ^{106}Cd , ^{44}Mg , ^{24}Mg , ^{26}Mg , Tgs
- 283 Kristallhandel Kelpin
IMSchilling 18
6906 Leimen bei Heidelberg, West Germany
 ^{160}Gd
- 284 List Electronic
116 Bismarckstrasse
D-61 Darmstadt, West Germany
 ^{194}Pt , ^{87}Rb
- 285 Mainz/Rhein, Universität
Mainz am Rhein, Germany
 ^{106}Cd , ^{113}Cd , ^{115}Cd , Tgs, ^{90}Zr
- 286 Marburg/Lahn, Universität
Marburg/Lahn, Germany
 ^{102}Ru , ^{104}Ru , ^{28}Si , Tgs
- 287 Max Planck Institut für Kernphysik
Saupfercheckweg
Heidelberg, Germany
 ^{40}Ca , ^{114}Cd , ^{54}Fe , ^{56}Fe , ^{76}Ge , ^{78}Ge ,
 ^{24}Mg , ^{25}Mg , ^{58}Ni , ^{60}Ni , ^{110}Pd , ^{121}Sb ,
 ^{123}Sb , ^{144}Sm , ^{146}Sm , ^{152}Sm , SS, ^{120}Te ,
 ^{122}Te , ^{124}Te , ^{126}Te , ^{128}Te , ^{130}Te , Tgs,
 ^{46}Ti , ^{48}Ti , ^{50}Ti , ^{70}Zn

288 Max Planck Institute fur Chemie
Saarstrasse 23, Mainz
West Germany

^{135}Ba , ^{170}Hf , ^{207}Pb

289 Max-Planck Institut
Bottingerstrasse 6/8,
D34 Gottingen, West Germany

^6Li

290 Munchen, Technischen Hochschule
Arcistrasse 21
8 Munchen 2
Germany

^{10}B , ^{40}Ca , ^{42}Ca , ^{37}Cl , ^{52}Cr , ^{160}Dy ,
 ^{164}Er , ^{168}Er , ^{154}Gd , ^{156}Gd , ^{160}Gd ,
 ^{72}Ge , ^{76}Ge , ^{176}Hf , ^6Li , ^{97}Mo ,
 ^{150}Nd , ^{208}Pb , ^{105}Pd , ^{106}Pd , ^{110}Pd ,
 ^{192}Pt , ^{194}Pt , ^{195}Pt , ^{196}Pt , ^{99}Ru ,
 ^{32}S , ^{34}S , ^{28}Si , ^{29}Si , ^{30}Si , ^{147}Sm ,
 ^{120}Sn , ^{116}Te , ^{128}Te , ^{130}Te , ^{132}Te , ^{134}Te ,
 ^{205}Tl , ^{180}W , ^{182}W , ^{184}W , ^{186}W ,
 ^{174}Yb , ^{172}Yb , ^{66}Zn , ^{68}Zn , ^{70}Zn ,
 ^{91}Zr , ^{92}Zr , ^{94}Zr

291 Munster, Universitat
44 Munster/Westfalen, Germany

^{208}Pb

292 Rohstoff-Einfuhr GmbH
Faunastrasse 61
4000 Duesseldorf 1, West Germany

^{199}Hg

293 Stuttgart, der Universitat
Azenbergstrasse 12
Stuttgart N, West Germany

^{147}Nd , ^{30}Si , ^{13}C

294 Universitat Bielefeld
Fakultat fur Physik
Universitaatsstrasse
4800 Bielefeld 1
West Germany

^6Li

295 Universitat Konstanz am Giesberg
Warenannehe
D-7750 Konstanz
West Germany

^{63}Cu

296 Universitat Regensburg
Universitaatsstr. 31
D-8400 Regensburg
West Germany

^{37}Cl

INDIA

297 Bhabha Atomic Research Centre
Government of India
3rd Floor Mohatta Building
Bombay 1, India

^{57}Fe , ^{208}Pb , ^{84}Sr , ^{13}C

298 Tata Institute of Fundamental Research
Holiday Camp, Colaba
Bombay 5, India

^{81}Br , ^{70}Ge , ^{72}Ge , ^{76}Ge , ^{95}Mo ,
 ^{96}Mo , ^{97}Mo , ^{98}Mo , ^{194}Pt , ^{34}S ,
 ^{76}Se , ^{78}Se , ^{125}Te , ^{66}Zn , ^{68}Zn

ISRAEL

299 Government of Israel
Ministry of Defense
850 Third Avenue
New York, New York 10022

^{50}Cr , ^{208}Pb , ^{207}Pb

300 Hebrew University of Jerusalem, The
Jerusalem, Israel

^{180}Hf , ^{208}Pb , ^{88}Sr

301 Landseas Corporation
1212 Avenue of the Americas
New York, New York 10036

^{40}Ca , ^{42}Ca , ^{44}Ca , ^{150}Sm , ^{152}Sm

ITALY

302 Comitato Nazionale l'Energia Nucleaire
818 Eighteenth Street, N. W.
Washington, D. C. 20005

^{95}Mo , ^{35}S

303 Istituto Nazionale di Fisica Nucleare
Largo E. Fermi 2
50125 Florence, Italy

^{13}C , ^{99}Tl

304 Istituto Nazionale di Fisica Nucleare
Via A. Tari, 3
80138 Napoli, Italy

^{62}Ni , ^{28}Si

305 Istituto di Chimica Biologica
Faculta di Medicina E. Chirurgia
Universita di Roma
00185 Roma, Italy

^{63}Cu

306 Padova, Universita Degli Studi di
Via F. Marzolo 8
Padova, Italy

^{112}Cd , ^6Li , ^7Li , ^{34}S , ^{30}Si , ^{35}S

307 University Degli Studi Di Firenze
Istituto Di Chimica Farmaceutica
Via 50121 Gino Capponi 5
Florence, Italy

^{63}Cu

JAPAN

- 308 Japan Atomic Energy Research Institute
Tokai Research Establishment
Tokai-Mura, Naka-Gun, Ibaraki-Ken
Japan

^{143}Nd , ^{145}Nd , ^{146}Nd , ^{148}Nd , SS, ^{183}W ,
 ^{90}Zr , ^{92}Zr

- 309 Japan Radioisotope Association
Hon-Komagome 2 Chome 28
Bunkyo-Ku
Tokyo, Japan

^{107}Ag , ^{109}Ag , ^{108}B , ^{110}B , ^{44}Ca , ^{46}Ca ,
 ^{48}Ca , ^{110}Cd , ^{111}Cd , ^{112}Cd , ^{113}Cd , ^{114}Cd ,
 ^{116}Cd , ^{140}Ce , ^{142}Ce , ^{37}Cl , ^{50}Cr ,
 ^{52}Cr , ^{53}Cr , ^{63}Cu , ^{65}Cu , ^{160}Dy ,
 ^{151}Eu , ^{54}Fe , ^{56}Fe , ^{57}Fe , ^{60}Co ,
 ^{71}Ga , ^{152}Gd , ^{154}Gd , ^{156}Gd , ^{158}Gd ,
 ^{160}Gd , ^{70}Ge , ^{72}Ge , ^{73}Ge , ^{74}Ge ,
 ^{76}Ge , ^{178}Hf , ^{180}Hf , ^{198}Hg , ^{200}Hg ,
 ^{202}Hg , ^{204}Hg , ^6Li , ^7Li , ^{176}Lu , ^{24}Mg ,
 ^{25}Mg , ^{26}Mg , ^{92}Mo , ^{94}Mo , ^{95}Mo , ^{97}Mo ,
 ^{98}Mo , ^{100}Mo , ^{142}Nd , ^{144}Nd , ^{146}Nd ,
 ^{148}Nd , ^{150}Nd , ^{58}Ni , ^{60}Ni , ^{61}Ni ,
 ^{62}Ni , ^{64}Ni , ^{189}Os , ^{206}Pb , ^{208}Pb ,
 ^{207}Pb , ^{209}Pb , ^{106}Pd , ^{108}Pd , ^{110}Pd ,
 ^{112}Pd , ^{194}Pt , ^{196}Pt , ^{185}Re , ^{187}Re ,
 ^{99}Ru , ^{100}Ru , ^{102}Ru , ^{104}Ru , ^{33}S , ^{34}S ,
 ^{80}Se , ^{82}Se , ^{28}Si , ^{29}Si , ^{30}Si , ^{147}Sm ,
 ^{149}Sm , ^{150}Sm , ^{152}Sm , ^{154}Sm , ^{112}Sn ,
 ^{114}Sn , ^{115}Sn , ^{116}Sn , ^{117}Sn , ^{118}Sn ,
 ^{119}Sn , ^{120}Sn , ^{122}Sn , ^{124}Sn , ^{84}Sr ,
 ^{86}Sr , SS, ^{122}Te , ^{124}Te , ^{126}Te , Tgs,
 ^{48}Ti , ^{50}Ti , ^{203}Tl , ^{205}Tl , ^{182}W ,
 ^{183}W , ^{184}W , ^{186}W , ^{176}Yb , ^{64}Zn ,
 ^{66}Zn , ^{67}Zn , ^{90}Zr , ^{91}Zr , ^{92}Zr ,
 ^{94}Zr , ^{96}Zr

- 310 Kansai Electronics Co., Ltd.
8 Toyanocho
Kitaku, Osaka, Japan

^{52}Cr , ^{74}Ge , ^{87}Sr , Tgs, ^{99}Ti

- 311 Marubeni America Corporation
14 Henderson Drive
West Caldwell, N. J. 07006

^{150}Nd

- 312 Tokyo, University of
Azabu, Minato-Ku
Tokyo, Japan

^{90}Zr

KOREA

- 313 Korea Atomic Energy Research Institute
P. O. Box 7, Cheong Ryang
Seoul, Korea

^6Li

MEXICO

- 314 U. N. A. M.
Instituto de Geofisica
Apdo. Postal 20-111
Mexico 20, D. F.

^{41}K , ^{85}Rb , ^{87}Rb , ^{84}Sr

NETHERLANDS

- 315 Highways International
Amsterdamse Straatweg 20
Baarn 2670
The Netherlands

^{194}Pt , ^{196}Pt , ^{88}Sr , Tgs

- 316 Kamerlingh Onnes Laboratorium
Nieuwsteeg 18
Leiden
The Netherlands

^{35}Cl

- 317 N. V. Philips-Duphar
P. O. Box 2
Weesp, The Netherlands

^{203}Tl

- 318 Reactor Centrum Nederland
Petten N. H., The Netherlands

^{138}Ce , ^{63}Cu , ^{158}Dy , ^{162}Er , ^{54}Fe ,
 ^{71}Ga , ^{154}Gd , ^{178}Hf , ^{94}Mo , ^{96}Mo ,
 ^{142}Nd , ^{144}Nd , SS, ^{180}Ta , ^{49}Ti , ^{186}W ,
 ^{176}Yb , ^{90}Zr

- 319 Rijksinkoopbureau
(Netherlands Govt. Purchasing Office)
55 A Laan van Meerdervoort
The Hague, Netherlands

^{134}Ba , ^{42}Ca , ^{35}Cl , ^{144}Er , ^{160}Er ,
 ^{57}Fe , ^{160}Gd , ^6Li , ^{25}Mg , ^{58}Ni ,
 ^{61}Ni , ^{206}Pb , ^{106}Pd , ^{150}Sm , SS,
 ^{126}Te , ^{128}Te , Tgs, ^{168}Yb , ^{176}Yb

- 320 State University of Groningen
Westersingel 34
Groningen
The Netherlands

^{99}Ru

- 321 Vrije Universiteit
Amsterdam, The Netherlands

^{136}Ba , ^{208}Pb , ^{106}Pd , ^{196}Pt

NEW ZEALAND

- 322 University of Auckland
Private Bag
Auckland, New Zealand

^{42}Ca

NORWAY

- 323 Institutt for Atomenergi
Kjeller, Norway

^{40}Ca , ^{98}Mo

REPUBLIC OF CONGO

- 324 Heriot-Watt University
Riccarton, Edinburgh EH 14 4AS
Scotland

Tgs, ^{186}W , ^{92}Zr , ^{94}Zr

SCOTLAND

- 325 Aberdeen, University of
Maternity Hospital
Obstetrics and Gynecology
Clinical Research Unit
Foresterhill, Aberdeen, Scotland

196Pt

SOUTH AFRICA

- 326 J. A. Ewing and McDonald, Inc.
51 Madison Avenue
New York, New York 10010

107Ag, 109Ag

- 327 Stellenbosch, University of
Stellenbosch, South Africa

41K, SS

- 328 Witwatersrand University
Johannesburg, South Africa

41K, 87Rb

SWEDEN

- 329 Chalmers University of Technology
Gibraltargatan 5-b
Gothenburg, Sweden

63Cu, 7Li

- 330 Forskningsinstitutet för Atomfysik
Stockholm 50, Sweden

142Nd, 144Nd, 146Nd, 127Te

- 331 The Swedish Institute for Surface Chemistry
Drottning Kristinas Väg 45, s-114 28
Stockholm, Sweden

57Fe, SS

- 332 University of Lund
Solvegatan 14
Lund, Sweden
S-223 62

43Ca, 113Cd, 25Mg

- 333 University of Umea
S-901 87 Umea
Sweden

114Cd

- 334 Uppsala, University of
Uppsala, Sweden

106Cd, 108Cd, 111Cd, 112Cd, 114Cd,
116Cd, 63Cu, 65Cu, 54Fe, 58Fe,
142Nd, 144Nd, 146Nd, 150Nd, 61Ni,
62Ni, 64Ni, 76Ru, 76Se, 76Se,
80Se, 150Sm

SWITZERLAND

- 335 Basel Universitat
4000 Basel
Switzerland

52Cr, Tgs, 50Ti

- 336 Bern Universitat
3000 Bern, Switzerland

92Mo

- 337 Ecole Polytechnique Federale de Lausanne
Federal Inst. of Technology
33 Av. de Cour
Lausanne, Switzerland

96Mo

- 338 Eidg. Institut für Reaktorforschung
Würenlingen, Switzerland

57Fe, 61Ni, 146Sm

- 339 Eidg. Technische Hochschule
8049 Zurich, Switzerland

Tgs, 44Ti, 50Ti

- 340 Zurich, der Universitat
8001 Zurich, Switzerland

108, 50Cr, 52Cr, Tgs, 64Zn, 96Zr

TURKEY

- 341 Turkey Atomic Energy Commission
Cekmece Nuclear Research Center
P.K.-1 Hava Alani
Istanbul, Turkey

50Cr, 58Fe, 154Gd, SS, 130Te

II. ALPHABETICAL LIST OF ISOTOPES,
CROSS-REFERENCED TO CUSTOMER NUMBERS

A. DOMESTIC

Antimony 123	Calcium 040
111, 156	10, 29, 34, 36, 38, 64, 84, 94, 123, 162, 172
Barium 130	Calcium 042
35, 81, 129, 143	22, 29, 42, 53, 100, 135, 195
Barium 132	Calcium 043
67, 143	49, 123
Barium 134	Calcium 044
109, 141, 143, 193	10, 27, 36, 47, 64, 112, 123, 156, 167, 195
Barium 135	Calcium 046
11, 28, 49, 75, 99	32, 36, 174
Barium 136	Calcium 048
16, 109, 141, 143	10, 24, 27, 32, 82, 98, 147, 172, 174, 181
Barium 137	Carbon 012
10, 99, 111, 163	127
Barium 138	Cerium 136
3, 99, 141	3
Boron 010	Cerium 140
3, 18, 21, 23, 34, 50, 56, 58, 68, 78, 84, 86, 138, 160, 162, 186	35, 141
Boron 011	Cerium 142
10, 18, 28, 35, 58, 127, 152, 162, 184	11, 35, 64, 132, 141
Bromine 079	Chlorine 035
8, 18, 148	32, 40, 47, 82, 106, 119, 179
Bromine 081	Chlorine 037
8, 18, 64, 141, 148, 179	106
Cadmium 106	Chromium 050
55, 117, 176	36, 53, 67, 111, 112, 135, 161
Cadmium 108	Chromium 052
84	21, 30, 111, 162
Cadmium 110	Chromium 053
71, 97, 124	53, 159, 189
Cadmium 111	Chromium 054
47, 60, 79, 124, 174, 176	24, 162
Cadmium 112	Copper 063
102	10, 30, 36, 40, 41, 43, 93, 97, 101, 116, 136, 162, 174, 178, 180, 186, 193
Cadmium 113	Copper 065
26, 32, 101, 124, 184, 185, 195	10, 11, 30, 36, 93, 106, 116, 136, 163, 174, 178, 180, 196
Cadmium 114	Dysprosium 156
101, 112, 149, 151, 176	11
Cadmium 116	Dysprosium 160
21, 163	10

Dysprosium 161	Germanium 072
11, 64, 116	21, 41, 124, 156
Dysprosium 164	Germanium 074
177	21, 46, 124, 162
Erbium 162	Germanium 076
135	124, 139, 141, 162
Erbium 164	Hafnium 178
135	64
Erbium 166	Hafnium 179
21, 40, 117, 135	11, 70
Erbium 167	Hafnium 180
11, 64, 99, 116	71
Erbium 168	Indium 113
135	47, 111
Erbium 170	Indium 115
11, 21, 35, 137, 163	97, 99
Europium 151	Iridium 191
64, 81, 116, 173, 189	36, 137
Europium 153	Iridium 193
11, 156, 162, 189	11, 36
Gadolinium 152	Iron 054
3, 24, 162	1, 10, 35, 47, 49, 53, 82, 84, 88, 93, 111, 112, 136, 143, 165, 186
Gadolinium 154	Iron 056
36, 156	24, 30, 35, 39, 50, 84, 90, 92, 162
Gadolinium 155	Iron 057
9, 11, 64	5, 18, 41, 62, 66, 87, 89, 106, 133, 162, 164, 187
Gadolinium 156	Iron 058
143, 162	18, 36, 52, 67, 99, 110, 111, 112, 117, 143, 162, 165
Gadolinium 157	Lanthanum 138
169	3, 11
Gadolinium 158	Lead 204
21, 162	16, 36, 40, 47, 154, 163
Gadolinium 160	Lead 206
10, 21, 140, 162, 169	156, 159
Gadolinium High Purity 154	Lead 207
162	60, 162
Gallium 069	Lead 208
21	10, 21, 26, 33, 34, 36, 47, 84, 97, 107, 108, 109, 124, 149, 162, 186
Gallium 071	Lithium 006
162	3, 5, 10, 17, 21, 22, 34, 36, 37, 39, 45, 50, 58, 74, 84, 86, 94, 95, 97, 115, 117, 126, 127, 128, 136, 141, 144, 145, 150, 156, 158, 160, 162, 166, 168, 175, 190, 193, 195
Germanium 070	
124, 134, 162	

Lithium 007

4, 7, 10, 12, 13, 15, 16, 17, 27, 33, 36,
37, 45, 51, 59, 63, 73, 74, 85, 115, 120,
122, 126, 128, 131, 134, 137, 142, 150, 157,
162, 166, 168, 182, 191

Lutetium 175

36, 99

Lutetium 176

11, 64, 162

Magnesium 024

10, 24, 35, 47, 64, 91, 99, 107, 152, 162,
186, 193

Magnesium 025

10, 18, 21, 22, 24, 33, 50, 53, 64, 83,
162, 163

Magnesium 026

10, 24, 35, 49, 62, 64, 84, 99, 162, 167,
184, 193

Mercury 198

47, 77, 163

Mercury 199

31, 105, 170, 174, 184

Mercury 200

47, 152

Mercury 201

41, 111

Mercury 202

47, 170

Mercury 204

47, 77, 88

Molybdenum 092

21, 36, 82, 149

Molybdenum 095

10, 34, 58, 162, 193

Molybdenum 096

145, 193

Molybdenum 097

10, 49

Molybdenum 098

34, 47

Molybdenum 100

38, 64, 145, 189

Neodymium 142

21, 28, 105, 141, 162, 188

Neodymium 143

99, 121

Neodymium 144

21, 40, 105, 111, 141, 188

Neodymium 145

3, 11, 41, 64, 59, 116, 117

Neodymium 146

9, 21, 36, 38, 92, 141, 183, 188

Neodymium 148

21, 35, 41, 99, 129, 132

Neodymium 150

9, 21, 48, 57, 70, 117, 156, 162, 163

Nickel 058

10, 35, 47, 84, 92, 99, 130, 141, 145, 162,
186

Nickel 060

10, 22, 36, 84, 130, 156, 162

Nickel 061

36, 60, 145, 189

Nickel 062

10, 19, 24, 36, 53, 58, 84, 112, 145, 162

Nickel 064

21, 30, 36

Osmium 186

35, 36, 92, 137, 141

Osmium 187

35

Osmium 188

35, 135, 141

Osmium 189

168, 169

Osmium 190

11, 24, 99, 135, 141, 168, 183

Osmium 193

10, 21, 36, 141

Palladium 102

10, 24, 143, 171

Palladium 104

10

Palladium 105

21

Palladium 106

10, 21, 35

Palladium 108

10, 21, 24, 38, 70, 112, 117, 162

Palladium 110

24, 41, 70, 134, 162

Platinum 192

36

Platinum 194

36, 47, 117

Platinum 195

36, 60, 162

Platinum 196

18, 21, 36, 41, 47, 117, 141, 162

Potassium 039

10, 22, 33, 36, 84, 99, 105, 134

Potassium 040

36, 57

Potassium 041

33, 34, 36, 84, 112, 118, 152, 166, 167

Rhenium 185

168

Rhenium 187

183

Rubidium 085

10, 34, 35, 36, 61, 84, 134, 152, 168

Rubidium 087

20, 25, 32, 33, 34, 61, 69, 77, 84, 114, 163, 168

Ruthenium 096

21, 132, 193

Ruthenium 099

80, 135

Ruthenium 100

135, 162

Ruthenium 101

35, 135, 162

Ruthenium 102

135, 162, 171

Ruthenium 104

36, 134, 135, 162

Samarium 144

21, 35, 38, 97, 99, 141, 162

Samarium 147

183

Samarium 148

34, 92, 141

Samarium 149

11, 64, 99, 116, 129, 156, 163, 169

Samarium 150

21, 34, 92, 97, 107

Samarium 152

11, 21, 34, 35, 92, 97, 107, 132, 184

Samarium 154

21, 35, 38, 97, 162

Selenium 074

96

Selenium 076

21, 124, 134, 139, 143

Selenium 077

82, 134, 143, 174

Selenium 078

21, 124, 134, 143, 156, 167

Selenium 080

10, 47, 105, 124, 134, 143

Selenium 082

34, 105, 124, 134, 141, 143

Silicon 028

21, 36, 64, 97, 124, 135, 162, 195

Silicon 029

22, 84, 105, 136, 141, 194, 195

Silicon 030

6, 22, 84, 99, 105, 109, 118, 135, 136, 194

Silver 107

10, 11, 67, 112, 113, 124, 143, 152, 184

Silver 109

124, 184

Special Services

3, 10, 16, 18, 21, 27, 29, 34, 35, 36, 38, 40, 47, 50, 62, 67, 75, 77, 82, 84, 92, 97, 98, 100, 105, 107, 108, 109, 111, 118, 119, 121, 128, 135, 147, 151, 161, 162, 173, 179, 186, 188

Strontium 084

20, 36, 94, 104

Strontium 086

10, 28, 36, 47, 117, 149, 161

Strontium 087

36, 101

Strontium 088

35, 128

Sulfur 032

82, 135, 156

Sulfur 033

64, 82, 105

Sulfur 034

82, 105, 189

Target Preparation Stable

10, 14, 18, 21, 24, 29, 34, 35, 36, 47, 48,
54, 58, 65, 72, 84, 91, 92, 94, 99, 100,
107, 108, 111, 112, 117, 118, 123, 124, 125,
128, 130, 134, 135, 137, 140, 146, 147, 155,
158, 160, 162, 164, 169, 180, 183, 184, 186,
189, 192, 196

Tellurium 122

47, 102, 103, 110, 162

Tellurium 124

30, 44, 47, 102

Tellurium 125

36, 41, 44, 47, 119

Tellurium 126

44, 112, 162

Tellurium 128

21, 41, 76, 110, 141, 156

Tellurium 130

31, 41, 47, 149, 156

Thallium 203

27, 36, 47, 111, 112, 169

Thallium 205

10, 27, 36, 47, 149, 162, 174

Tin 112

36, 143

Tin 114

21, 143

Tin 116

10, 36, 38, 92, 156, 162

Tin 117

49, 109, 156

Tin 118

105, 108, 162

Tin 119

10, 33, 106, 156, 169, 174

Tin 120

107, 108, 149, 162

Tin 122

106, 134

Tin 124

21, 34, 36, 106, 112, 134, 156

Titanium 046

21, 34, 58

Titanium 047

44, 53, 64

Titanium 048

18, 30, 36, 38, 44, 156, 162

Titanium 049

24, 36, 44, 64, 108, 162, 163

Titanium 050

34, 36, 49, 53

Tungsten 180

18, 24, 76, 112, 162

Tungsten 182

3, 48, 99, 141, 162, 169

Tungsten 183

2, 3, 121, 195

Tungsten 184

36, 99, 141

Tungsten 186

84, 141

Ytterbium 168

24, 36

Ytterbium 170

11, 99, 152

Ytterbium 171

3, 11, 64, 116

Ytterbium 172

10, 99

Ytterbium 173

3, 70, 99

Ytterbium 174

38, 99

Ytterbium 176

35, 129, 132

Zinc 064

36, 58, 64, 108, 156, 193

Zinc 066

58, 64, 76, 106, 156, 167, 193

Zinc 067

11, 21, 57, 82, 101, 106, 108, 143, 153,
195

Zinc 068

24, 62, 64, 102, 103, 143, 159, 193

Zinc 070

36, 125, 136, 143, 162, 174

Zirconium 090

10, 21, 36, 65, 97, 162

Zirconium 091

10, 11, 36

Zirconium 092

21, 107

Zirconium 096

36, 47, 129

B. FOREIGN

Antimony 121

287

Antimony 123

287

Barium 130

220, 271

Barium 132

271

Barium 134

199, 233, 237, 260, 319

Barium 135

199, 204, 237, 260, 280, 288

Barium 136

204, 212, 221, 237, 260, 271, 280, 321

Barium 137

204, 244, 249, 260

Barium 138

199, 249

Boron 010

197, 214, 215, 221, 249, 259, 261, 268, 271,
277, 250, 309, 340

Boron 011

214, 223, 225, 244, 252, 260, 276, 309

Bromine 079

207, 220, 270

Bromine 081

207, 220, 225, 231, 298

Cadmium 106

237, 244, 281, 282, 285, 334

Cadmium 108

237, 334

Cadmium 110

237, 271, 309

Cadmium 111

214, 285, 309, 334

Cadmium 112

306, 309, 334

Cadmium 113

285, 309, 332

Cadmium 114

249, 287, 309, 333, 334

Cadmium 116

249, 309, 334

Calcium 040

226, 237, 262, 265, 301

Calcium 042

214, 237, 261, 301, 319, 322

Calcium 043

223, 250, 261, 279, 332

Calcium 044

234, 249, 261, 301, 309

Calcium 046

234, 237, 247, 280, 309

Calcium 048

201, 244, 248, 250, 261, 271, 287, 290, 309,
323

Cerium 138

318

Cerium 140

221, 237, 261, 271, 309

Cerium 142

212, 221, 237, 246, 249, 290, 309

Chlorine 035

216, 259, 261, 270, 316, 319

Chlorine 037

201, 225, 246, 249, 261, 266, 290, 296, 309

Chromium 050

206, 213, 247, 249, 255, 258, 299, 309, 340,
341

Chromium 052

206, 224, 250, 290, 309, 310, 335, 340

Chromium 053

250, 255, 309

Chromium 054

197, 201, 237, 249

Copper 063

214, 225, 295, 305, 307, 309, 329, 334

Copper 065

197, 201, 214, 225, 309, 318, 334

Dysprosium 156

272

Dysprosium 158

222, 268, 318

Dysprosium 160

202, 290, 309

Dysprosium 161

217, 221, 237

Dysprosium 162

199, 249, 251

Dysprosium 163

217, 221, 268

Dysprosium 164

221

Erbium 162

221, 268, 318

Erbium 164

221, 280, 290, 319

Erbium 166

202, 221, 237

Erbium 167

246, 253

Erbium 168

199, 221, 250, 267, 268, 290, 319

Erbium 170

199, 221

Europium 151

199, 206, 214, 221, 230, 249, 268, 309

Europium 153

214, 236, 280

Gadolinium 152

205, 247, 268, 280, 309

Gadolinium 154

237, 290, 318

Gadolinium 155

271, 309

Gadolinium 156

204, 237, 278, 290, 309

Gadolinium 157

204

Gadolinium 158

204, 237, 268, 309, 341

Gadolinium 160

217, 232, 237, 244, 267, 268, 283, 290, 309, 319

Gallium 069

309

Gallium 071

199, 309, 318

Germanium 070

249, 278, 298, 309

Germanium 072

290, 298, 309

Germanium 073

225, 249, 276, 309

Germanium 074

249, 287, 290, 298, 309, 310

Germanium 076

214, 237, 287, 309

Hafnium 174

318

Hafnium 176

290

Hafnium 177

268

Hafnium 178

221, 309

Hafnium 179

249, 288

Hafnium 180

268, 274, 300, 309

Indium 115

226

Iridium 191

204, 268, 280

Iridium 193

268, 280

Iron 054

206, 221, 238, 287, 309, 318, 334

Iron 056

201, 206, 237, 287, 309

Iron 057

206, 235, 263, 278, 297, 309, 319, 331, 338

Iron 058

247, 271, 334, 341

Lanthanum 138

200, 246

Lanthanum 139

250

Lead 204

244, 261, 274, 299, 309, 319

Lead 206

197, 214, 228, 240, 267, 272, 274, 280, 291, 309

Lead 207

228, 272, 274, 280, 288, 299, 309

Lead 208

198, 216, 228, 240, 249, 261, 271, 272, 274, 275, 278, 290, 297, 300, 309, 321

Lithium 006

199, 204, 209, 222, 241, 269, 271, 273, 275, 289, 290, 294, 306, 309, 313, 319

Lithium 007

204, 209, 214, 249, 259, 273, 278, 280, 306, 309, 329

Lutetium 175

203, 250

Lutetium 176

200, 250, 309

Magnesium 024

204, 214, 230, 251, 265, 272, 282, 287, 309

Magnesium 025

201, 204, 223, 230, 251, 272, 282, 287, 309, 319, 332

Magnesium 026

201, 204, 243, 250, 251, 261, 265, 269, 271, 272, 282, 309

Mercury 196

247, 250, 258, 292

Mercury 198

309

Mercury 199

214, 274

Mercury 200

214, 274, 309

Mercury 201

199, 261

Mercury 202

207, 309

Mercury 204

214, 250, 273, 309

Molybdenum 092

208, 210, 227, 237, 256, 309, 336

Molybdenum 094

197, 237, 251, 309, 318

Molybdenum 095

199, 237, 298, 302, 309

Molybdenum 096

237, 298, 318, 337

Molybdenum 097

197, 237, 253, 250, 298, 309

Molybdenum 098

398, 309, 323

Molybdenum 100

237, 256, 309

Neodymium 142

197, 210, 221, 237, 249, 309, 318, 330, 334

Neodymium 143

197, 212, 237, 268, 274, 308

Neodymium 144

197, 221, 237, 244, 249, 309, 318, 330

Neodymium 145

197, 237, 268, 308

Neodymium 146

197, 221, 237, 244, 308, 309, 330, 334

Neodymium 148

197, 209, 221, 244, 249, 293, 308, 309, 334

Neodymium 150

197, 199, 204, 209, 221, 249, 250, 309, 311, 334

Nickel 058

214, 225, 247, 249, 250, 261, 287, 309, 319

Nickel 060

214, 225, 237, 250, 261, 309

Nickel 061

261, 276, 309, 319, 334, 338

Nickel 062

197, 237, 247, 249, 251, 261, 304, 309, 334

Nickel 064

225, 231, 237, 249, 261, 272, 287, 309, 334

Osmium 186

204

Osmium 187

209

Osmium 188

225

Osmium 189

225, 309

Osmium 190

204, 225, 250

Osmium 192

217, 225, 244, 253

Palladium 104

199, 237, 309, 321

Palladium 105

261, 290

Palladium 106

199, 237, 250, 290, 309

Palladium 108

199, 204, 237, 250, 252, 272, 274, 309, 319

Palladium 110

199, 209, 214, 237, 274, 275, 287, 290, 309

Platinum 192

260, 290

Platinum 194

250, 272, 278, 284, 290, 298, 309, 315

Platinum 195

261, 290

Platinum 196

201, 217, 261, 278, 290, 309, 315, 321, 325

Potassium 039

249, 262

Potassium 040

253

Potassium 041

214, 231, 249, 250, 262, 314, 327, 328

Rhenium 185

254, 309

Rhenium 187

309

Rubidium 085

314

Rubidium 087

200, 274, 284, 314, 328

Ruthenium 096

214, 224, 244, 251, 334

Ruthenium 098

224, 251, 320

Ruthenium 099

224, 242, 290, 309

Ruthenium 100

224, 237, 280, 309

Ruthenium 101

237, 280

Ruthenium 102

218, 224, 237, 280, 286, 309

Ruthenium 104

224, 237, 250, 280, 286, 309

Samarium 144

199, 220, 221, 236, 237, 244, 249, 262, 268, 287, 309

Samarium 147

237, 244, 249, 268

Samarium 148

199, 221, 287, 290, 309, 338

Samarium 149

199, 237, 244, 268

Samarium 150

199, 237, 249, 262, 301, 309, 319, 334

Samarium 152

222, 244, 278, 287, 301, 309

Samarium 154

199, 209, 244, 250, 262, 268, 309

Selenium 074

224, 242, 247, 258

Selenium 076

214, 221, 298, 334

Selenium 077

221, 223

Selenium 078

199, 214, 221, 298, 334

Selenium 080

199, 221, 309, 334

Selenium 082

199, 214, 221, 309

Silicon 028

226, 237, 249, 286, 290, 304, 309

Silicon 029

249, 276, 290, 309

Silicon 030

199, 237, 249, 250, 273, 290, 293, 306, 309

Silver 107

227, 237, 309, 326

Silver 109

197, 237, 250, 251, 309, 326

Special Services

199, 201, 206, 207, 211, 214, 221, 224, 226,
239, 246, 247, 250, 258, 261, 265, 266, 271,
272, 273, 287, 290, 302, 306, 308, 309, 318,
319, 327, 331, 341

Strontium 084

250, 258, 271, 297, 309, 314

Strontium 086

214

Strontium 087

250, 310

Strontium 088

247, 250, 300, 309, 315

Sulfur 032

290

Sulfur 033

253, 276, 309

Sulfur 034

201, 257, 261, 270, 290, 298, 306, 309

Tantalum 180

318

Target Preparation Stable

199, 201, 204, 206, 211, 214, 221, 224, 227,
228, 237, 245, 250, 255, 256, 260, 262, 267,
271, 272, 275, 278, 282, 285, 286, 287, 290,
293, 297, 303, 309, 310, 315, 319, 324, 335,
339, 340

Tellurium 120

209, 287

Tellurium 122

237, 247, 264, 287, 309, 330

Tellurium 123

229

Tellurium 124

209, 219, 237, 250, 253, 271, 280, 287, 309,
319

Tellurium 125

223, 229, 267, 298, 309

Tellurium 126

237, 287, 290, 319

Tellurium 128

209, 251, 267, 287, 290

Tellurium 130

250, 267, 287, 290, 341

Thallium 203

247, 267, 309, 317

Thallium 205

290, 309

Tin 112

211, 247, 250, 267, 309

Tin 114

267, 309

Tin 115

309

Tin 116

199, 250, 309

Tin 117

226, 267, 309

Tin 118

227, 267, 309

Tin 119

217, 228, 249, 267, 376, 309

Tin 120

199, 231, 237, 290, 309

Tin 122

199, 220, 231, 249, 309

Tin 124

220, 250, 309

Titanium 046

239, 245, 250, 287

Titanium 047

239, 250

Titanium 048

224, 239, 250, 287, 309, 339

Titanium 049

239, 250, 303, 310, 318

Titanium 050

201, 221, 239, 245, 287, 309, 335, 339

Tungsten 180

290, 318, 324

Tungsten 182

273, 290, 309

Tungsten 183

308, 309

Tungsten 184

273, 290, 309

Tungsten 186

253, 273, 290, 309

Ytterbium 168

247, 258, 280, 319

Ytterbium 170

214, 251, 252, 290

Ytterbium 171

246, 250, 251

Ytterbium 172

214, 221, 250, 290

Ytterbium 174

214

Ytterbium 176

214, 221, 237, 309, 318, 319

Zinc 064

221, 265, 278, 290, 298, 309, 340

Zinc 066

298, 309

Zinc 067

250, 253, 309

Zinc 068

261, 290

Zinc 070

287

Zirconium 090

214, 250, 285, 290, 308, 309, 318

Zirconium 091

214, 268, 274, 290, 309

Zirconium 092

214, 221, 226, 290, 308, 309, 312, 324

Zirconium 094

214, 250, 290, 309, 324

Zirconium 096

214, 250, 271, 272, 309, 340

III. ALPHABETICAL LIST OF STATES AND COUNTRIES, CROSS-REFERENCED TO CUSTOMER NUMBERS

A. DOMESTIC

Alabama	Michigan
4, 5	66, 78, 85, 105, 106, 188
Alaska	Minnesota
6	109, 122
Arizona	Missouri
11	96, 110
Arkansas	New Jersey
12	8, 18, 103, 113, 136, 143, 154
California	New Mexico
14, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 42, 54, 61, 67, 73, 77, 80, 86, 95, 102, 131, 138, 144, 148, 150, 151, 152, 160, 172, 181	36, 114, 145
Colorado	New York
2, 45, 46, 47, 49, 166	13, 21, 22, 48, 51, 52, 53, 60, 68, 76, 87, 89, 115, 116, 117, 141, 153, 161, 190, 196
Connecticut	North Carolina
50, 55, 120, 176, 195	58, 118, 119
District of Columbia	Ohio
37, 39, 79, 111, 146, 167, 173	41, 74, 81, 104, 126, 127, 128, 157, 169
Florida	Oklahoma
63, 64, 65	59
Georgia	One Time Billings
62, 70, 71, 72	180
Idaho	Oregon
3	129, 130, 139
Illinois	Pennsylvania
10, 40, 82, 83, 108, 121, 123, 175	16, 38, 133, 134, 135, 142, 159, 189, 191
Indiana	Rhode Island
84, 124, 137	23, 140
Iowa	South Carolina
88, 93	9, 57, 147
Kansas	Tennessee
91	125, 155, 162, 163, 179
Kentucky	Texas
92	1, 17, 20, 56, 149, 156
Louisiana	Utah
94, 165	19, 178
Maryland	Virginia
15, 90, 97, 164, 170, 174	44, 69, 168, 171, 182, 183, 184
Massachusetts	Washington
43, 75, 98, 99, 100, 112, 177, 194	107, 132, 185, 186, 192
	West Virginia
	158, 187
	Wisconsin
	7, 101, 193

B. FOREIGN

Argentina

197

Australia

198, 199, 200, 201, 202, 203

Austria

204

Belgium

205, 206, 207, 208, 209

Brazil

210, 211, 212

Canada

213, 214, 215, 216, 217, 218, 219, 220, 221,
222, 223, 224, 225, 226, 227, 228, 229, 230,
231, 232

Denmark

233, 234, 235, 236, 237

England

238, 239, 240, 241, 242, 243, 244, 245, 246,
247, 248, 249

France

250, 251, 252, 253, 254, 255, 256, 257

Germany

258, 259, 260, 261, 262, 264, 265, 266, 267,
268, 269, 271, 272, 273, 274, 275, 276, 277,
278, 279, 280, 281, 282, 283, 285, 286, 287,
288, 289, 290, 291, 292, 293

India

297, 298

Israel

299, 300, 301

Italy

302, 303, 304, 305, 306, 307

Japan

308, 309, 310, 312

Korea

313

Mexico

314

Netherlands

315, 317, 318, 319, 320, 321

New Jersey

311

New Zealand

322

Norway

323

Scotland

324, 325

South Africa

326, 327, 328

Sweden

329, 330, 331, 332, 333, 334

Switzerland

335, 336, 337, 338, 339, 340

The Netherlands

316

Turkey

341

West Germany

263, 270, 284, 294, 296, 296

ISOTOPE	D O M E S T I C			F O R E I G N			P R O J E C T			T O T A L		
	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS
ANTIMONY-121				1	50.0	77				1	50.0	77
ANTIMONY-123	2	132.0	205	1	50.0	77				3	182.0	282
BARIUM-130	3	16.0	384	2	40.0	1440	1	50.0	1675	6	106.0	3499
BARIUM-132	2	204.0	6120	1	10.0	420				3	214.0	6540
BARIUM-134	5	271.0	650	6	480.0	1030				11	751.0	1680
BARIUM-135	4	217.0	413	7	442.0	729				11	659.0	1142
BARIUM-136	3	180.0	252	8	621.7	608				11	801.7	860
BARIUM-137	2	100.0	105	4	515.0	521	1	490.0	202	7	1105.0	828
BARIUM-138	2	663.0	100	2	666.0	100	1	300.0	50	5	1629.0	250
BORON-10	14	2426090.0	21774	24	611900.0	5338	6	218000.0	1785	44	3255990.0	28897
BORON-11 (BORIC)				2	5000.0	600				2	5000.0	600
BORON-11 ELEMENT	6	133000.0	4846	11	49500.0	1784	5	22000.0	966	22	204500.0	7596
BROMINE-79	2	40.0	128	3	165.0	517				5	205.0	645
BROMINE-81	5	120.0	372	5	455.0	1410				10	575.0	1782
CADMIUM-106	3	50.0	995	6	162.5	4584				9	212.5	5579
CADMIUM-108	1	10.0	162	2	40.0	650				3	50.0	812
CADMIUM-110	3	915.0	601	5	329.0	238				8	1244.0	839
CADMIUM-111	6	629.5	410	5	1580.0	1027				11	2209.5	1437
CADMIUM-112	1	4000.0	1800	5	1530.0	690				6	5530.0	2490
CADMIUM-113	11	1356.0	1029	4	467.0	350				15	1823.0	1379
CADMIUM-114	6	81635.0	32700	6	1750.0	700				12	83385.0	33400
CADMIUM-116				4	350.0	350	2	150.0	150	6	500.0	500
CALCIUM-40	5	29000.0	7250	5	1900.0	475	5	6600.0	1650	15	37500.0	9375
CALCIUM-42	6	261.0	2218	6	365.0	2990				12	626.0	5208
CALCIUM-43	2	9.0	522	6	202.0	9462				8	211.0	9984
CALCIUM-44	9	1838.7	4174	5	241.7	477	1	200.0	460	15	2280.4	5111
CALCIUM-46	3	6.0	3514	6	65.0	38025				9	71.0	41539
CALCIUM-48	11	751.5	22858	16	435.0	17400	2	90.0	2889	29	1276.5	43147
CARBON-12	1	50.0	215							1	50.0	215
CERIUM-136							1	3.0	156	1	3.0	156
CERIUM-138				1	10.0	57				1	10.0	57
CERIUM-140	1	330.0	50	7	2133.0	356				8	2463.0	406
CERIUM-142	3	190.0	266	8	725.7	1016	1	200.0	280	12	1115.7	1562
CHLORINE-35	8	1655.0	827	6	2875.0	1475				14	4530.0	2302
CHLORINE-37	1	10.0	62	9	703.0	3850				10	713.0	3912
CHROMIUM-50	5	1461.0	3559	9	2970.0	7722				14	4431.0	11281
CHROMIUM-52		562.0	309	8	1661.0	914	1	500.0	275	9	2723.0	1498
CHROMIUM-53	1	55.5	50	3	364.0	305	2	200.0	180	6	619.5	535
CHROMIUM-54	1	100.0	625	4	170.0	748				5	270.0	1373
COPPER-63	14	5720.0	1169	12	5420.0	1084	4	1140.0	266	30	12280.0	2519
COPPER-65	9	2423.0	869	9	3632.0	1286	3	830.0	305	21	6885.0	2461
DYSPROSIUM-156	1	1.5	50	1	197.0	2708				2	198.5	2758
DYSPROSIUM-158				4	255.0	3633				4	255.0	3633
DYSPROSIUM-160				4	680.0	1284	2	280.0	410	6	960.0	1694
DYSPROSIUM-161	3	375.0	150	3	450.0	180				6	825.0	330
DYSPROSIUM-162				4	1125.0	450				4	1125.0	450
DYSPROSIUM-163				3	492.8	172				3	492.8	172
DYSPROSIUM-164	1	200.0	50	1	200.0	50				2	400.0	100
ERBIUM-162	1	50.0	450	3	137.0	2333				4	187.0	2783
ERBIUM-164	1	50.0	187	4	350.0	1285				5	400.0	1472
ERBIUM-166	3	416.5	300	3	600.0	180	1	200.0	60	7	1216.5	540
ERBIUM-167	4	867.0	520	2	610.0	410				6	1477.0	930
ERBIUM-168	1	50.0	237	10	3650.0	2037				11	3700.0	2275
ERBIUM-170	2	140.0	100	2	200.0	100	2	301.0	190	6	641.0	390
EUROPIUM-151	3	333.0	150	9	2790.0	1260	1	1000.0	450	13	4123.0	1860
EUROPIUM-153	2	250.0	125	3	700.0	350	2	2000.0	1000	7	2950.0	1475
GADOLINIUM-152	1	160.0	464	5	240.0	7645	2	269.0	3732	8	669.0	11841

ISOTOPE	DOMESTIC			FOREIGN			PROJECT			TOTAL		
	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS
GADOLINIUM-154	1	30.0	307	4	195.0	1569				5	225.0	1877
GADOLINIUM-155	3	119.0	655	2	600.0	1250				5	719.0	1905
GADOLINIUM-156	1	56.0	50	5	445.0	424	4	630.0	567	10	1131.0	1041
GADOLINIUM-157	1	100.0	100	1	30.0	50				2	130.0	150
GADOLINIUM-158				7	1440.0	815	4	630.0	346	11	2070.0	1161
GADOLINIUM-160	2	3400.0	1700	9	2104.0	949	7	3330.0	1858	18	8834.0	4507
GALLIUM-69				1	90.0	50	1	500.0	275	2	590.0	325
GALLIUM-71				3	200.0	200	1	50.0	50	4	250.0	250
GERMANIUM-70	2	400.0	150	5	995.0	331	2	95.0	100	9	1490.0	581
GERMANIUM-72	3	475.0	162	3	835.0	251	1	100.0	50	7	1410.0	463
GERMANIUM-73				5	435.0	770				5	435.0	770
GERMANIUM-74	2	500.0	100	6	1800.0	380	3	265.0	150	11	2565.0	630
GERMANIUM-76	3	228.0	608	4	350.0	910	2	120.0	264	9	698.0	1782
H.P. GADOLINIUM							2	25.0	256	2	25.0	256
HAFNIUM-174				1	6.0	57				1	6.0	57
HAFNIUM-176				2	350.0	1505				2	350.0	1505
HAFNIUM-177				1	100.0	110				1	100.0	110
HAFNIUM-178	1	100.0	50	2	200.0	100				3	300.0	150
HAFNIUM-179	3	96.0	150	2	150.0	232				5	246.0	382
HAFNIUM-180	1	260.0	130	5	800.0	400				6	1060.0	530
INDIUM-113	2	85.0	1020							2	85.0	1020
INDIUM-115	2	1200.0	540	1	111.0	50				3	1311.0	590
IRIDIUM-191	1	15.0	75	3	190.0	950		175.0	875	4	380.0	1900
IRIDIUM-193	1	10.0	50	2	40.0	200		110.0	550	3	160.0	800
IRON-54	15	3044.0	4567	8	1380.0	2095	3	950.0	1425	26	5374.0	8087
IRON-56	7	11500.0	1150	7	7620.0	850	4	5266.0	526	18	24386.0	2526
IRON-57	12	1293.0	3098	15	6065.0	14345				27	7358.0	17444
IRON-58	14	478.0	8210	3	310.0	7855	2	57.0	1482	19	845.0	17547
LANTHANUM-138	1	3.0	129	2	15.0	645	1	3.0	129	4	21.0	903
LANTHANUM-139				1	200.0	200				1	200.0	200
LEAD-204	2	143.0	1028	6	335.0	2250	1	100.0	280	9	578.0	3558
LEAD-206	1	100.0	60	14	7884.0	5776	1	200.0	120	16	8184.0	5956
LEAD-207	1	100.0	165	9	7886.0	3398	1	75.0	50	11	8061.0	3613
LEAD-208	11	6710.0	1202	25	155089.0	16926	6	15115.0	1811	42	176914.0	19940
LITHIUM-6	33	9158000.0	13586	22	7710895.0	13853	12	1699034.5	2982	67	18567929.5	30422
LITHIUM-7	43	598360503.0	154619	14	31557654.0	3430	6	367004.5	435	63	630785161.5	158485
LUTETIUM-175	1	550.0	192	2	286.0	100		4293.0	1203	3	5129.0	1495
LUTETIUM-176	3	7.0	301	3	27.0	1161	1	2.0	86	7	36.0	1548
MAGNESIUM-24	10	1650.0	607	14	7543.0	2685	4	570.0	275	28	9763.0	3567
MAGNESIUM-25	8	340.0	850	13	1872.0	4682	6	660.0	1675	27	2872.0	7207
MAGNESIUM-26	9	3129.0	4544	17	4885.0	7118	5	6070.0	4832	31	14084.0	16494
MERCURY-196				5	180.4	70483				5	180.4	70483
MERCURY-198	3	70.0	770	1	80.0	380	1	10.0	110	5	160.0	1760
MERCURY-199	5	235.0	1527	2	140.0	910				7	375.0	2437
MERCURY-200	3	160.0	640	4	270.0	1080				7	430.0	1720
MERCURY-201	2	40.0	510	1	20.0	255				3	60.0	765
MERCURY-202	3	145.0	2320	2	60.0	960				5	205.0	3280
MERCURY-204	3	75.0	750	6	300.0	2775	1	40.0	400	10	415.0	3925
MOLYBDENUM-92	1	1000.0	300	9	769.5	455	2	800.0	240	12	2569.5	995
MOLYBDENUM-94				5	730.0	428				5	730.0	428
MOLYBDENUM-95	2	266.5	100	4	1505.0	452	2	2500.0	705	8	4271.5	1457
MOLYBDENUM-96	1	100.0	50	3	4400.0	1147	1	10000.0	1561	5	14500.0	2758
MOLYBDENUM-97	1	111.0	50	6	1050.0	474	3	2103.0	945	10	3264.0	1469
MOLYBDENUM-98	1	150.0	150	7	48350.0	48352				8	48500.0	48502
MOLYBDENUM-100	2	500.0	250	6	570.0	400	2	10200.0	3174	10	11270.0	3824
NEODYMIUM-142	3	490.0	338	13	3596.0	2239	3	625.0	410	19	4711.0	2987
NEODYMIUM-143	1	650.0	585	5	565.6	509				6	1215.6	1094

ISOTOPE	D O M E S T I C			F O R E I G N			P R O J E C T			T O T A L		
	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS
NEODYMIUM-144	4	16540.0	4962	8	4630.0	1459	1	200.0	60	13	21370.0	6482
NEODYMIUM-145	6	870.0	1087	4	350.0	437	1	100.0	125	11	1320.0	1650
NEODYMIUM-146	4	3998.0	1455	10	2265.0	1058	2	400.0	180	16	6663.0	2694
NEODYMIUM-148	3	225.0	254	10	1375.0	1602	5	1315.0	1545	18	2915.0	3406
NEODYMIUM-150	5	380.0	572	10	8200.0	11070	6	405.0	622	21	8985.0	12265
NICKEL-58	3	5233.0	825	13	56953.0	8680	5	14480.0	1887	26	76666.0	11392
NICKEL-60	4	3800.0	760	9	4570.0	1090	2	205.0	100	15	8575.0	1950
NICKEL-61	1	50.0	262	6	460.0	2390	3	2023.0	10211	10	2533.0	12864
NICKEL-62	7	17979.0	30435	12	4635.0	7886	4	1443.0	2107	23	24057.0	40428
NICKEL-64				10	450.0	3480	3	1000.0	8831	13	1450.0	12311
OSMIUM-186	3	45.0	900	1	183.0	3660		10.0	200	4	238.0	4760
OSMIUM-187				1	100.0	1400	1	10.0	140	2	110.0	1540
OSMIUM-188	2	200.0	550	1	20.0	55	1	100.0	275	4	320.0	880
OSMIUM-189	2	72.0	162	2	122.0	275				4	194.0	437
OSMIUM-190	7	1893.5	3030	6	666.0	1066				13	2559.5	4096
OSMIUM-192	1	100.0	95	4	362.0	344	3	1700.0	1615	8	2162.0	2054
PALLADIUM-102	3	17.0	935				4	18.0	990	7	35.0	1925
PALLADIUM-104				4	320.0	1285	1	20.0	85	5	340.0	1370
PALLADIUM-105				2	400.0	900		81.0	182	2	481.0	1082
PALLADIUM-106				6	465.5	908	2	903.0	1289	8	1368.5	2197
PALLADIUM-108	5	470.0	800	13	1701.0	2756	3	225.0	360	21	2396.0	3916
PALLADIUM-110	4	255.0	944	13	1970.0	7190	1	100.0	365	18	2325.0	8499
PLATINUM-192				2	70.0	1487	1	20.0	425	3	90.0	1912
PLATINUM-194	2	110.0	110	8	800.0	800	1	54.0	54	11	964.0	964
PLATINUM-195	2	200.0	550	2	250.0	687	2	749.0	1686	6	1199.0	2923
PLATINUM-196	5	735.0	1470	10	1350.0	2700	3	250.0	500	18	2335.0	4670
POTASSIUM-39	5	1030.0	826	2	1300.0	1040	2	250.0	210	10	2580.0	2076
POTASSIUM-40				1	2.0	500	2	41.0	2645	3	43.0	3145
POTASSIUM-41	3	900.0	4500	9	1185.0	5925	1	200.0	1000	19	2285.0	11425
RHENIUM-185	1	76.0	50	2	228.0	149				3	304.0	199
RHENIUM-187	1	125.0	50	1	120.0	50				2	245.0	100
RUBIDIUM-85	5	690.0	380	1	100.0	55	5	4590.0	2525	11	5380.0	2960
RUBIDIUM-87	11	1059.8	3605	5	430.0	1502	2	120.0	408	18	1609.8	5515
RUTHENIUM-096	1	20.0	200	5	150.0	1500	3	110.0	1100	9	280.0	2800
RUTHENIUM-098				4	60.0	1980				4	60.0	1980
RUTHENIUM-099	1	20.0	76	5	630.0	2314	1	100.0	380	7	750.0	2770
RUTHENIUM-100	1	20.0	105	5	240.0	1260		229.0	449	6	489.0	1814
RUTHENIUM-101	1	20.0	60	2	70.0	210	1	473.0	1057	4	563.0	1327
RUTHENIUM-102	2	130.0	205	6	367.0	569		75.0	116	8	572.0	890
RUTHENIUM-104	2	170.0	442	7	400.0	1064		58.0	150	9	628.0	1656
SAMARIUM-144	4	800.0	660	17	3942.0	2785	3	1171.0	820	24	5913.0	4265
SAMARIUM-147	1	171.0	51	6	1238.0	371				7	1409.0	422
SAMARIUM-148	1	125.0	50	7	1160.0	577	1	200.0	80	9	1485.0	707
SAMARIUM-149	7	1019.0	371	4	692.0	242	1	100.0	50	12	1811.0	664
SAMARIUM-150	2	200.0	100	8	1050.0	525	2	300.0	150	12	1550.0	775
SAMARIUM-152	5	2488.3	394	8	4293.0	685	5	1450.0	300	18	8231.3	1379
SAMARIUM-154	2	300.0	100	11	2571.0	520	3	145.0	150	16	3016.0	770
SELENIUM-74	3	342.0	39330	4	220.0	25300				7	562.0	64630
SELENIUM-76	5	266.0	506	4	286.0	544	1	100.0	190	10	652.0	1240
SELENIUM-77	4	564.0	1184	2	73.0	155				6	637.0	1339
SELENIUM-78	6	475.0	641	5	830.0	1120	3	1100.0	1485	14	2405.0	3246
SELENIUM-80	5	510.0	460	4	293.0	268	1	100.0	90	10	903.0	818
SELENIUM-82	6	521.0	1093	4	254.0	777	1	50.0	400	11	825.0	2270
SILICON-28	7	600.0	690	8	1579.0	1825	4	1285.0	1477	19	3464.0	3993
SILICON-29	8	312.0	1638	5	630.0	3307				13	942.0	4945
SILICON-30	11	1543.0	6474	10	1143.0	5827				21	2686.0	12302
SILVER-107	10	6754.3	3057	6	1460.0	658		500.0	225	16	8714.3	3940

ISOTOPE	DOMESTIC			FOREIGN			PROJECT			TOTAL		
	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS	SHIP	MILLIGRAMS	DOLLARS
SILVER-109	2	810.0	486	7	1054.3	632				9	1864.3	1118
STRONTIUM-84	3	103.0	188	8	316.0	13173				11	419.0	13361
STRONTIUM-86	6	3700.0	1850	1	800.0	400	4	450.0	300	11	4950.0	2550
STRONTIUM-87	1	71.0	50	2	750.0	525	1	100.0	70	4	921.0	645
STRONTIUM-88		5559.0	277	6	14300.0	775	4	1600.0	170	10	21459.0	1222
SULFUR-32	3	250.0	250	1	100.0	100				4	350.0	350
SULFUR-33	4	53.0	1930	3	35.0	960				7	88.0	2790
SULFUR-34	4	117.0	944	8	272.0	1882	1	150.0	890	13	539.0	3717
TANTALUM-180				1	10.0	350				1	10.0	350
TELLURIUM-120				2	25.0	2375				2	25.0	2375
TELLURIUM-122	8	7072.4	47738	7	1930.0	13027	4	1850.0	8585	19	10852.4	69351
TELLURIUM-123				1	50.0	150				1	50.0	150
TELLURIUM-124	6	10036.0	38127	13	6505.0	24719	1	500.0	1326	20	17041.0	64172
TELLURIUM-125	4	294.0	338	5	950.0	1002				9	1244.0	1340
TELLURIUM-126	2	584.0	350	4	350.0	230	1	100.0	60	7	1034.0	640
TELLURIUM-128	6	1016.0	360	5	1917.0	610	1	400.0	120	12	3333.0	1090
TELLURIUM-130	5	1820.0	455	8	11450.0	2914	1	400.0	100	14	13670.0	3469
THALLIUM-203	10	140210.0	77170	6	112100.0	61655	1	200.0	110	17	252510.0	138935
THALLIUM-205	4	3300.0	660	2	1100.0	250	2	1288.0	267	8	5688.0	1177
TIN-112	1	3.0	68	7	4133.0	94025	1	50.0	794	9	4186.0	94888
TIN-114	1	7.5	65	2	540.0	4725	1	150.0	916	4	697.5	5706
TIN-115				1	20.0	300				1	20.0	300
TIN-116	4	1100.0	330	4	3531.0	1060	4	4467.0	1340	12	9098.0	2730
TIN-117	3	450.0	225	3	600.0	300				6	1050.0	525
TIN-118	2	342.5	120	4	5335.0	1905	2	50.0	50	8	5727.5	2075
TIN-119	5	1050.0	382	10	4140.0	1255	2	4000.0	700	17	9190.0	2337
TIN-120	3	1400.0	350	5	1200.0	300	2	2200.0	550	10	4800.0	1200
TIN-122	2	500.0	325	7	975.0	635				9	1475.0	960
TIN-124	5	1950.0	1072	5	3500.0	1925	3	3200.0	1295	13	8650.0	4292
TITANIUM-46	1	50.0	70	3	403.0	561	2	255.0	357	6	708.0	988
TITANIUM-47	3	134.0	181	1	618.0	834				4	752.0	1015
TITANIUM-48	4	1285.0	257	7	5964.0	1263	2	750.0	150	13	7999.0	1670
TITANIUM-49	4	657.0	1511	5	2182.0	4836	3	330.0	759	12	3169.0	7106
TITANIUM-50	2	57.0	100	7	3265.5	5803	3	4484.0	4857	12	7806.5	10760
TUNGSTEN-180	4	206.0	2250	3	21.0	1427	1	6.0	942	8	233.0	4619
TUNGSTEN-182	4	2800.0	700	4	800.0	200	1	200.0	50	9	3800.0	950
TUNGSTEN-183	2	610.0	366	1	80.0	50				3	690.0	416
TUNGSTEN-184	2	3200.0	960	3	565.0	170	1	100.0	50	6	3865.0	1180
TUNGSTEN-186	2	500.0	175	4	740.0	260				6	1240.0	435
YTTERBIUM-168	3	27.0	479	11	485.0	14252	1	50.0	1627	15	562.0	16358
YTTERBIUM-170	3	860.0	1720	4	620.0	2603				7	1480.0	4323
YTTERBIUM-171	3	252.0	151	3	145.0	150				6	397.0	301
YTTERBIUM-172	1	550.0	220	4	1175.0	510	1	500.0	200	6	2225.0	930
YTTERBIUM-173	2	750.0	300							2	750.0	300
YTTERBIUM-174	1	874.0	218	1	1000.0	250				2	1874.0	468
YTTERBIUM-176	1	170.0	59	6	1832.8	642	3	1020.0	400	10	3022.8	1102
ZINC-64	5	958.0	335	7	1532.0	547		173.0	43	12	2663.0	926
ZINC-66	7	850.9	468	2	180.0	100				9	1030.9	568
ZINC-67	10	535.5	1985	3	133.0	494	3	285.0	1054	16	954.5	3533
ZINC-68	10	13670.0	10936	1	100.0	80	1	100.0	80	12	13870.0	11096
ZINC-70	5	41.0	1271	1	50.0	1550		74.0	1648	6	165.0	4469
ZIRCONIUM-90	2	225.0	100	4	3340.0	880	5	6520.0	1700	11	10085.0	2680
ZIRCONIUM-91	1	48.0	50	4	1350.0	1417	2	1200.0	943	7	2598.0	2410
ZIRCONIUM-92	1	500.0	475	8	462.5	524		44.0	41	9	1006.5	1040
ZIRCONIUM-94				4	190.0	255				4	190.0	255
ZIRCONIUM-96	2	35.0	150	6	215.0	1022				8	250.0	1172
LOANS										70	2618031.2	
TOTAL	800	61.041629.4	649944	1203	40581751.5	766721	303	2462315.0	129176	2376	656703727.1	1545842

INTERNAL DISTRIBUTION

1.	W. A. Bell, Jr.	21.	J. E. Ratledge
2.	K. B. Brown	22.	J. G. Tracy
3.	S. E. Curtis	23.	D. B. Trauger
4-5.	W. C. Davis	24.	R. G. Wymer
6.	D. E. Ferguson	25.	A. Zucker
7.	H. R. Gwinn	26.	G. R. Choppin (consultant)
8.	J. E. Keeton	27.	E. L. Gaden, Jr. (consultant)
9.	E. Lamb	28.	C. H. Ice (consultant)
10.	C. L. Ottinger	29.	L. E. Swabb, Jr. (consultant)
11-15.	E. Newman	30.	K. D. Timmerhaus (consultant)
16.	F. G. Perey	31.	Laboratory Records - RC
17.	H. Postma	32-41.	Laboratory Records
18.	W. K. Prater	42.	ORNL Patent Section
19.	W. R. Ragland	43-44.	Central Research Library
20.	M. E. Ramsey	45.	Document Reference Section

EXTERNAL DISTRIBUTION

46. J. L. Burnett, Jr., Division of Physical Research, DOE, Washington, DC 20545
47. J. A. Lenhard, Research and Technical Support Division, DOE-ORO
48. J. N. Maddox, Division of Biomedical and Environmental Research, DOE, Washington, DC 20545
49. J. W. Nehls, Research and Technical Support Division, DOE-ORO
50. H. S. Oster, Jr., Research and Technical Support Division, DOE-ORO
51. G. L. Rogosa, Division of Physical Research, DOE, Washington, DC 20545
52. R. H. Schoonmaker, Office of the Controller, DOE, Washington, DC 20545
53. R. A. Schwind, Monsanto Research Corporation, Miamisburg, OH 45342
54. J. L. Simmons, Battelle-Pacific Northwest Laboratory, Battelle Blvd., Richland, WA 99352
55. J. S. Kane, Division of Physical Research, DOE, Washington, DC 20545
56. W. W. H. Weyzen, Division of Biomedical and Environmental Research, Washington, DC 20545
- 57-83. Technical Information Center, Oak Ridge, TN 37830