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UCRL-50400 Volume 7
Part A

**An Integrated System for Production
of Neutronics and Photonics Computational Constants**

Volume 7 Part A

**GRAPHICAL, EXPERIMENTAL DATA
FOR MAJOR NEUTRON-INDUCED INTERACTIONS ($Z \leq 55$)**

D. E. Cullen, R. C. Haight, R. J. Howerton,
M. H. MacGregor, and S. T. Perkins

April 1, 1974

Prepared for U.S. Atomic Energy Commission under contract No. W-7405-Eng-48

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Foreword

The UCRL-50400 series describes an integrated and computer-oriented system for the production and application of neutronics and photonics calculational constants.

The system must supply reliable up-to-date data, select specific types of data on request, provide output in a variety of forms - ultimately in the form of input to other computer codes, and function rapidly and efficiently. The system has now been developed to a point where these goals are being realized.

The UCRL-50400 series, An Integrated System for Production of Neutronics and Photonics Calculational Constants, comprises the following volumes:

- Vol. 1, ECSIL, A System for Storage, Retrieval and Display of Experimental Neutron Data, March 1974.
- Vol. 2, A Bibliography of the Experimental Data of Neutron-Induced Interactions, March 1974.
- Vol. 3, An Index of the Experimental Data of Neutron-Induced Interactions, March 1974.
- Vol. 4, Evaluated Nuclear Cross-Section Library, April 1971.
- Vol. 5, CLYDE: A Nuclear Data-Processing Computer Program for

Producing Calculational Constants, May 1971.

- Vol. 6, Photon Cross Sections 1 keV to 100 MeV, October 1968.
- Vol. 7, Graphical Experimental Data for Major Neutron-Induced Interactions, April 1974.
- Vol. 8, Graphical Experimental Data for Supplemental Neutron-Induced Interactions, to be published.
- Vol. 9, Thresholds of Nuclear Reactions Induced by Neutrons, Photons, Deuterons, Tritons, and Alpha Particles, September 1970.
- Vol. 10, Tabulated Experimental Data for Neutron-Induced Interactions, May 1974.
- Vol. 11, Experimental Data, Indexes and Techniques of Obtaining a Selected Set of Neutron Resonance Parameters, May 1972.
- Vol. 12, An Atlas of Resolved Neutron Resonance Parameters, July 1972.
- Vol. 13, An Atlas of Unresolved Neutron Resonance Parameters, September 1972.
- Vol. 14, TARTNP: A Coupled Neutron-Photon Monte Carlo Transport Code, June 1974.

GRAPHICAL, EXPERIMENTAL DATA FOR MAJOR NEUTRON-INDUCED INTERACTIONS

Abstract

The total, elastic, capture and fission cross sections, contained in the Experimental Cross Section Information Library (ECSIL) as of March 1, 1974, are presented in graphical form. For the sake of clarity, these data are plot-

ted without associated error bars. The plots are arranged in ascending order of atomic number (Z) and atomic weight (A). Part A contains the plots for $Z = 1$ to 55, and Part B contains the plots for $Z > 55$.

Introduction

In 1958, a computerized system for the storage and retrieval of experimental neutron-interaction data was installed at Lawrence Livermore Laboratory. The system has developed gradually and it is still being improved.

The present system¹ is made up of two separate files: A numeric data file and a bibliographic information file. The two files are linked through the use of a four digit number which is uniquely assigned to each reference.

In 1959 and 1960, tabulations of integrated and differential neutron cross sections below 15 MeV were published.

Since that time the number of entries in the system has increased by more than an order of magnitude. Consequently, there is too much data in the current library (almost one million data points) to publish tabulations of this information; the resulting volumes would be prohibitively expensive and bulky. However, by presenting the data in graphs² and on microfiche,³ we can significantly reduce the expense and the bulk. Moreover, the reduction in bulk means that indexes⁴ and bibliographies can be added to help in the manipulation of the data.

Graphical Data

Volumes 7 and 8 present graphs of all cross sections* contained in ECSIL.

*As opposed to angular distributions and energy distributions.

Volume 7 consists primarily of interactions where a single data set contains enough points to show cross section behavior. Volume 8 consists of interactions

where more than one data set is needed to show cross section behavior. Thus, the total, elastic, capture and fission cross sections; and the parameters $\bar{\nu}$, α and η are found in vol. 7. All other reactions are in vol. 8.

The present ECSIL library contains 985 158 points, of which 823 508 points are cross sections. Of these points 790 694 (over 96%) are total, elastic, capture, fission, $\bar{\nu}$, α or η and are, therefore, contained in vol. 7. The remaining 32 814 points are contained in vol. 8. Although vol. 7 contains the vast majority of the data points, the division of data sets* between the two volumes is more equitable: 4612 in vol. 7, and 4113 in vol. 8.

In this volume each data set is plotted separately. The plots are arranged in ascending atomic number (Z) and atomic weight (A) (see ECSIL conventions for compounds and special materials). Within each material the reactions are

arranged in the order: total, elastic, fission, capture, $\bar{\nu}$, α , and η . For each reaction, the plots are arranged in ascending least energy order (identical to the order in the data indexes, vol. 3). The reference number and year of the reference appear to the left of each plot (e.g., ECSIL-3327 (68) indicates ECSIL reference number 3327 and that the reference is dated 1968).

Any reference that contains a large number of points is first plotted as a single entity and is then followed by a number of subplots that slightly overlap in energy. Each subplot is chosen to contain an acceptable number of data points.

Any reference that contains less than four points is not plotted. Points from these references are listed at the end of each material (ZA) in the following order: total, elastic, fission, capture, $\bar{\nu}$, α , and η . Within each reaction they are listed by ascending incident energy.

Relationship to Other Volumes

This volume is closely related to other volumes in the UCRL-50400 series and can be used to determine whether experimental data are available for a given target and reaction. The following volumes provide other paths to the information:

Volume 1 describes the format and conventions associated with the

* A data set in this context is the data from a given reference, for a single target and reaction.

library, as well as the supporting system of programs. The forms (e.g., plots and listings) and the order in which data and bibliographic information may be obtained are also given.

Volume 2 contains bibliographic indexes that can be used to determine whether a specific reference is included in the ECSIL system, and which experimental data are associated with the reference.

Volume 3 lists data indexes that may be used to determine the data in the library for a given isotope or reaction.

Volume 8 is a graphical presentation of all other integrated (as opposed to angular distribution) cross sections, including (N, N') and (N, α) , etc.

Volume 10 contains the integrated cross sections tabulated on microfiche.

Volume 11 lists the indexes and tabulated resonance parameters contained in ECSIL.

Volume 12 lists selected tabulated resolved resonance parameters.

Volume 13 lists selected tabulated unresolved resonance parameters.

Acknowledgments

We gratefully acknowledge the cooperation we have received from the National Neutron Cross Section Center at Brookhaven National Laboratory; the ENEA Center for collection of neutron data at Saclay; the IAEA Nuclear Data Section at Vienna; and the Nuclear Data Section at Vienna; The National Neutron Cross Section Center has routinely supplied us with experimental data collected at the four centers.

Many experimenters have furnished us with their data in advance of publication. To them, especially, we offer our grateful thanks. Finally, we would like to express our sincere gratitude to Mrs. Violet Gamble for her effort in maintaining the bibliographic file and to Mr. Kenneth Hill for insuring that the numerous computer runs were satisfactorily completed.

References

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ECSIL Conventions

The ECSIL Data System describes experimental neutron-induced cross sections and related information by indicating:

- Target - The ZA number is used to describe the target. There are several special conventions. For example, A is set equal to zero for elemental mixtures. For compounds, the Z of the element that appears first in the molecular formula is used, and A is defined as 300 plus the molecular weight (e.g., H_2O is assigned $Z = 1$ and $A = 318$). For unstable targets, the longest-lived isomer is assigned to the ZA of the target; short lived isomers are assigned the Z of the target, and A is defined as 600 plus the A of the target (e.g., ^{242g}Am is assigned $Z = 95$ and $A = 842$). See Table 1 for complete list of compounds and special isotopes.
- Interaction - A numerical equivalent is used to designate the interaction: total, elastic, capture, etc. In ECSIL this numerical equivalent is referred to as the basic C number. Table 2 gives a complete list of all basic C numbers.

- Interaction Property - A numerical equivalent designates the interaction properties that are measured, such as cross section, angular distribution, or energy distribution. In ECSIL this numerical equivalent is referred to as the C increment number. The total C number used to describe the interaction and its property is the sum of the C number increment and the basic C number [e.g., 11 indicates the total (N,N') cross section, whereas 311 indicates the (N,N') secondary neutron energy spectrum]. Table 3 gives a complete list of all C number increments. Table 4 lists miscellaneous quantities that are not included in the basic C, C increment scheme.
- Interaction Modifier - A numerical equivalent is used to further qualify or describe the interaction. This quantity indicates conditions such as target temperature, the cross section for excitation of one or more levels of the residual nucleus, and the cross section for production of one or more photons. In ECSIL this numerical equivalent is referred to as the S number. Table 5 gives a complete list of all S numbers.

Table 1. Compounds and special isotopes
(assigned ZA's).

Assigned ZA	Material	Assigned ZA	Material
1302	H ₂ (gas)	14300	SiO ₂
1308	H ₂ O	16364	SO ₂
1320	D ₂ O	22349	TiH _{0.6}
5370	B ₂ O ₃	22350	TiH _{1.9}
6328	C ₂ H ₄	26460	Fe ₂ O ₃
6331	CH ₃ OH	27660	^{60m} Co
6376	C ₆ H ₆	40391	ZrH _{0.63}
6384	C ₆ H ₁₂	40392	ZrH _{0.98}
6386	C ₆ H ₁₄	40393	ZrH _{1.5}
6392	C ₃ H ₈ O ₃	40394	ZrH _{1.98}
6404	C ₈ H ₈	40423	ZrO ₂
6652	C ₂₅ H ₅₂	60636	Nd ₂ O ₃
7328	N ₂ (gas)	61748	^{148g} Pm
7353	NH ₄ Cl	82999	RADIO-Pb
7398	NH ₄ Br	92570	UO ₂
7445	NH ₄ I	95842	^{242g} Am
8332	O ₂ (gas)	95844	^{244g} Am
12340	MgO	99854	^{254m} Es
13402	Al ₂ O ₃		

Table 2. Basic reaction designator (basic C).

Basic C	Cross section type	Basic C	Cross section type
1	Total	26	(N,P)
2	Elastic	27	(N,XP)
3	Nonelastic	28	(N,D)
4	Neutron emission (elastic + nonelastic)	29	(N,XD)
5	Total scattering (inelastic + elastic)	30	(N,T)
6	Neutron nonelastic emission	31	(N,XT)
7	Removal	32	(N, ³ He)
8	—	33	(N,X ³ He)
9	—	34	(N, α)
10	—	35	(N,X α)
11	(N,N')	36	Activation
12	(N,2N)	37	(N,2 α)
13	(N,3N)	38	—
14	(N,N'P)	39	—
15	(N,N'D)	40	—
16	(N,N'T)	41	Bound atom
17	(N,N', ³ He)	42	Free atom
18	(N,N', α)	43	Coherent scattering
19	(N,4N)	44	Incoherent scattering
20	—	45	—
21	Absorption	46	$\bar{\nu}_p$, prompt neutrons per fission (average)
22	(N,fission)	47	$\bar{\nu}_d$, delayed neutrons per fission (average)
23	(N, γ)	48	η , neutrons produced per non- elastic
24	(N,X γ) gamma-ray production	40	α , capture-to-fission ratio
25	(N,X) charged-particle emission		

Table 3. Reaction designator increments (C increment).

C increment	Reaction property (units)	Definition
0	Integrated cross sections (barns), or related parameters	σ
50	Spectrum-averaged cross section (barns)	$\bar{\sigma}$
100 ^a	Angular distributions (barns/steradian)	$\sigma(E, \theta)$
200	Energy distributions (barns/MeV)	$\sigma(E, E')$
250	Angular distributions integrated between fixed angular limits (barns)	$\sigma(E, \theta_{\min}, \theta_{\max})_{\text{lab}}$
300	Differential energy distributions (barns/steradian MeV)	$\sigma(E, E', \theta)_{\text{lab}}$
350	Partial distributions integrated between fixed energy and angular limits (barns)	$\sigma(E, E'_{\min}, E'_{\max}, \theta_{\min}, \theta_{\max})_{\text{lab}}$
400	Energy distributions integrated between fixed energy limits (barns)	$\sigma(E, E'_{\min}, E'_{\max})$
450 ^a	Legendre expansion of angular distributions — $g_l(E)$ (dimensionless)	$\sigma(E, \theta) = \sigma(E) \sum_{l=0}^{\infty} \frac{2l+1}{4\pi} g_l(E) P_l(\cos \theta)$
500	Resonance integrals (barns)	$R.I. = \int_{E_{\min}}^{E_{\max}} \sigma(E) \frac{dE}{E}$
550 ^a	Polarization (dimensionless)	$P(E, \theta)$
600	Partial distributions integrated between fixed-energy limits (barns/steradian)	$\sigma(E, E'_{\min}, E'_{\max}, \theta)_{\text{lab}}$
650	Partial distributions integrated between fixed angular limits (barns/MeV)	$\sigma(E, E', \theta_{\min}, \theta_{\max})_{\text{lab}}$
800	C/S ratios (dimensionless)	
900	Miscellaneous quantities	See: Table 4

^aAngular distributions for all unique two-body reactions are expressed in the center-of-mass system. Multibody reactions are expressed in the laboratory frame of reference.

Table 4. Reaction designator for miscellaneous quantities.

<u>C</u>	<u>Spectra parameters</u>				
901	Nuclear temperature, nonelastic (excluding fission)				
902	Nuclear temperature, total nonelastic				
903	Nuclear temperature, fission				
904	Nuclear temperature, inelastic (first neutron)				
905	Nuclear temperature (second neutron)				
	<u>Thermal parameters</u>				
911	Thermal scattering law, $S(\alpha, \beta)$				
	<u>Average resonance parameters</u>				
941	$\bar{D}_{\text{observed}}$	944	$\bar{\Gamma}_n^l$		
942	$\bar{\Gamma}_\gamma$	945	$\bar{D}_l^l$		
943	$\bar{\Gamma}_f$	946	$\bar{S}_l^l$		
	<u>Resolved resonance parameters</u>				
951	E_o (energy only)	965	$g\Gamma_n^2$	979	$\Gamma_n\sigma_o$
952	J, π	966	$g\Gamma_n$	981	$\sigma_o\Gamma_f/\Gamma_t$
953	l	967	$g\Gamma_n^o$	982	$\sigma_o\Gamma_\gamma/\Gamma_t$
954	g	968	$g\Gamma_\gamma$	983	$\sigma_o\Gamma_a/\Gamma_t$
955	σ_o	969	Γ_n/Γ_t	986	$g\Gamma_\gamma\Gamma_n/\Gamma_t$
956	Γ_t	970	Γ_a/Γ_t	987	$2g\Gamma_n^2/\Gamma_t$
957	Γ_n	971	Γ_γ/Γ_t	988	$\Gamma_t^2\sigma_o$
958	Γ_n^o	972	Γ_n/Γ_a	989	$g\Gamma_n^o\Gamma_f$
959	Γ_γ	973	Γ_f/Γ_t	990	$g\Gamma_f\Gamma_n/\Gamma_t$
960	Γ_f	974	Γ_f/Γ_a	991	$\sigma_o\Gamma_f\Gamma_t$
961	Γ_a	975	Γ_γ/Γ_f	992	$\Gamma_n^o\Gamma_f/\Gamma_t$
962	Γ_α	976	$\Gamma_t\sigma_o$	993	$g(\Gamma_n)^2$
963	Γ_p	977	$\Gamma_f\sigma_o$	994	$g\Gamma_n\Gamma_\gamma$
964	$g\Gamma_n^1$	978	$\Gamma_\gamma\sigma_o$		

Table 5. Reaction designator modifier^a
(S number).

S	Modification (units)
1	Level excitation (MeV)
2	Isomer production (seconds)
3	Isomer production (minutes)
4	Isomer production (hours)
5	Isomer production (days)
6	Isomer production (years)
7	Photon production (MeV)
8	Unresolved level excitation (MeV)
9	Material temperature (Kelvin)
10	Unresolved photon production (MeV)
11	Spin state (dimensionless)
12	Isotope bound in material (dimensionless)
13	Oriented crystal (Miller number)
14	Electron production (MeV)
20	Transmission measurement (barns/atom)

^aS + 80 indicates relative distribution.

一一一

03/01/74

TOTAL CROSS SECTION

1-H -1

BARNS

1-2

MEV

1-H -1 -2

03/01/74

TOTAL
CROSS SECTION

1-H -1

BARN

1-3

MEV

1-H -1 -3

03/01/74

TOTAL
CROSS SECTION

1-H -1

BARNs

1-4

MEV

1-H -1 -4

03/01/74

TOTAL
CROSS SECTION

1-H -1

03/01/74

TOTAL
CROSS SECTION

1-H -1

03/01/74

TOTAL
CROSS SECTION

1-H -1

1-7

MEV

1-H -1 -7

03/01/74

TOTAL
CROSS SECTION

1-H -1

03/01/74

TOTAL
CROSS SECTION

1-H -1

03/01/74

TOTAL
CROSS SECTION

1-H -1

1-10

1-H -1 -10

03/01/74

TOTAL
CROSS SECTION

1-H -1

03/01/74

TOTAL
CROSS SECTION

1-H -1

03/01/74

ELASTIC
CROSS SECTION

1-H -1

03/01/74

TOTAL

1-H -1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
46	175 3.5000-	2 5.0000-	3 1.6740+	1 4.1000- 1	51	206 1.4080+	1 5.0000-	2 6.8900-	1 5.0000- 3
46	175 2.6500-	1 5.0000-	3 9.1200+	0 2.4000- 1	70	3056 1.4100+	1	6.7100-	1 1.0000- 2
46	175 4.9000-	1 5.0000-	3 6.3300+	0 2.1000- 1	59	532 1.4100+	1 3.0000-	2 6.8710-	1 7.0010- 3
63	280 4.9260-	1 1.1000-	3 6.2020+	0 1.1200- 2	53	464 1.4100+	1	6.6010-	1 5.0000- 2
71	3248 5.2600-	1 1.3000-	3 5.9560+	0 1.4300- 2	52	78 1.4100+	1 5.0000-	2 6.8910-	1 5.0000- 3
41	170 9.0000-	1	3.7000+	0 3.5000- 1	66	1575 1.9570+	1 2.6000-	2 4.9330-	1 2.4000- 3
50	185 1.0000+	0 1.5000-	2 4.2000+	0 1.0000- 1	59	835 1.9670+	1 2.6000-	2 4.9400-	1 2.5000- 3
54	106 1.0050+	0 3.0000-	3 4.2280+	0 1.8000- 2	53	274 1.9930+	1 2.7000-	1 5.0410-	1 1.0000- 2
54	112 1.3150+	0 3.0000-	3 3.6750+	0 2.0000- 2	66	1575 2.3950+	1 1.7000-	2 3.9720-	1 1.7000- 3
53	208 2.5320+	0 6.0000-	3 2.5250+	0 9.0000- 3	45	307 2.5400+	1	3.9000-	1
71	3187 2.5330+	0 3.0000-	3 2.5360+	0 4.0000- 3	66	1575 2.7950+	1 1.3000-	2 3.3760-	1 2.1000- 3
54	106 2.5400+	0 5.5010-	3 2.5250+	0 9.0010- 3	50	281 4.2000+	1 1.0000+	0 2.0300-	1 7.0010- 3
65	1562 2.7700+	0	2.3700+	0 2.0000- 2	54	343 8.8000+	1 2.0000+	0 8.6110-	2 2.0000- 3
39	42 2.8800+	0 4.0000-	2 2.3200+	0 9.0010- 2	49	286 9.0000+	1	8.3010-	2 4.0000- 3
50	205 3.1000+	0 1.5000-	1 2.2300+	0 1.1000- 1	50	12 9.5000+	1	7.3010-	2 1.5000- 3
63	280 3.2050+	0 6.0010-	3 2.2060+	0 6.8410- 3	62	1601 2.0000+	2 4.0000+	1 4.2700-	2 9.0000- 4
53	87 4.7490+	0 9.0010-	3 1.6900+	0 6.0010- 3	55	2056 1.4000+	3 2.0000+	2 4.2400-	2 1.8000- 3
47	181 6.5000+	0 6.0010-	1 1.4000+	0 1.1000- 1	69	3160 4.0000+	3 6.0000+	2 4.3100-	2 6.0000- 4
51	65 1.3900+	1 1.0000+	0 7.7000-	1 4.0000- 2	61	1566 5.0000+	3 4.0000+	2 3.3600-	2 1.6000- 3
52	207 1.4000+	1	6.9010-	1 6.0010- 2	69	3160 5.7000+	3 6.0000+	2 4.2500-	2 6.0000- 4

03/01/74

TOTAL CROSS SECTION

1-H -1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62	1600	8.3000+ 3	4.1200- 2	2.6000- 3

03/01/74

N.GAMMA

1-H -1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62	3275	2.5300- 8	3.2780- 1	6.0000- 3
65	3223	2.5300- 9	3.3310- 1	3.0000- 3
61	3276	2.5300- 8	3.3500- 1	8.0000- 3
69	3277	2.5300- 8	3.3560- 1	8.2000- 3
67	1574	1.4400+ 1	3.0600- 5	1.8000- 6
61	687	1.4400+ 1	2.0000- 1	3.2000- 5
64	3286	1.4400+ 1	3.3800- 5	1.9000- 6
61	853	5.0000+ 1	1.0000+ 1	6.0010- 5

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	TEMP KELVIN
62	3275	2.5300- 8	3.2150- 1	6.0000- 3	2.7300+ 2

03/01/74

TOTAL
CROSS SECTION

1-H -2

BARNs

03/01/74

1-H -2

TOTAL
CROSS SECTION

03/01/74

TOTAL
CROSS SECTION

1-H -2

1-17

MEV

1-H -2 -3

03/01/74

TOTAL
CROSS SECTION

1-H -2

1-18

MEV

1-H -2 -4

03/01/74

TOTAL CROSS SECTION

1-H -2

BARNs

1-19

MEV

1-H -2 -5

03/01/74

TOTAL
CROSS SECTION

1-H -2

03/01/74

ELASTIC
CROSS SECTION

1-H -2

03/01/74

TOTAL

1-H -2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs			
55	214	1.0000-	1.2000- 2	3.2300+ 0	1.0000- 1	52	78	1.4100+ 1	5.0000- 2	8.0310- 1	1.4000- 2	
55	214	1.4600-	1.2000- 1	1.2000- 2	3.0700+ 0	9.0010- 2	50	281	4.2000+ 1	1.0000+ 0	2.8900- 1	1.3000- 2
55	214	2.0000-	1.2000- 2	3.0600+ 0	9.0010- 2	49	286	9.0000+ 1	1.1700- 1	5.0000- 3	1.1700- 1	5.0000- 3
51	285	4.5000+ 0	1.0000- 1	1.6000+ 0	2.0000- 1	50	12	9.5000+ 1	1.0400- 1	4.0000- 3	1.0400- 1	4.0000- 3
51	285	5.5000+ 0	1.0000- 1	1.5000+ 0	2.0000- 1	69	3160	4.0000+ 3	6.0000+ 2	8.0300- 2	1.9000- 3	1.9000- 3
52	207	1.4000+ 1	8.2010- 1	8.0010- 2	8.0010- 2	69	3160	5.7000+ 3	6.0000+ 2	7.7800- 2	1.3000- 3	1.3000- 3

1-21

1-H -2 -7

03/01/74

TOTAL
CROSS SECTION

1-H -2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 1948	1.4600+ 4		7.2200- 2	1.5000- 3
71 3180	1.8000+ 4	6.0000+ 3	7.5800- 2	8.0000- 4
68 1948	2.7000+ 4		6.9700- 2	7.0000- 4

03/01/74

ELASTIC

1-H -2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
53 464	1.4100+ 1		6.7010- 1	1.0000- 1
55 471	1.4100+ 1		6.1010- 1	3.0000- 2
68 2582	1.4300+ 1	2.0000- 1	6.5000- 1	6.0000- 3
70 2761	3.6000+ 1	2.0000+ 0	1.9600- 1	5.0000- 3
70 2761	4.6300+ 1	2.0000+ 0	1.4600- 1	3.0000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	TEMP KELVIN
51 2794	7.2400- 8		3.4000+ 0	4.0000- 1	7.7000+ 1

03/01/74

N, GAMMA

1-H -2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52 1624	2.5300- 8		5.7000- 4	1.0000- 5
68 1604	2.5300- 8		5.2100- 4	9.0000- 6
67 1604	2.5300- 8		5.0600- 4	1.0000- 5
61 687	1.4400+ 1	2.0000- 1	2.9400- 5	5.8000- 6

03/01/74

TOTAL
CROSS SECTION

1-H -3

03/01/74

ELASTIC
CROSS SECTION

1-H -3

03/01/74

ELASTIC
CROSS SECTION

1-H -3

03/01/74

TOTAL

1-H -3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 491	2.5000+ 0		2.5000+ 0	5.0000- 1
57 491	1.4000+ 1		6.3000- 1	1.7000- 1

03/01/74

TOTAL
CROSS SECTION

H2 GAS

03/01/74

TOTAL
CROSS SECTION

H2O

03/01/74

TOTAL
CROSS SECTION

H2O

03/01/74

TOTAL
CROSS SECTION

H2O

03/01/74

TOTAL
CROSS SECTION

H2O

03/01/74

TOTAL

H2O

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		4.6100+ 1	2.0000- 1
50 12	9.5000+ 1		8.0710- 1	5.0000- 3
50 12	9.5000+ 1		8.1160- 1	5.0000- 3

03/01/74

TOTAL
CROSS SECTION

D20

1-30

D20 -1

03/01/74

TOTAL
CROSS SECTION

D20

03/01/74

TOTAL
CROSS SECTION

D20

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		1.0600+ 1	1.0000- 1
50 12	9.5000+ 1		8.6810- 1	5.0000- 3

03/01/74

TOTAL
CROSS SECTION

2-HE-NAT

03/01/74

TOTAL
CROSS SECTION

2-HE-NAT

1-34

2-HE-NAT -2

03/01/74

TOTAL
CROSS SECTION

2-HE-NAT

03/01/74

TOTAL
CROSS SECTION

2-HE-NAT

BARNs

MEV

03/01/74

TOTAL CROSS SECTION

2-HE-NAT

EC51L-1611 (55)

EC51L-1611 (55)

03/01/74

ELASTIC
CROSS SECTION

2-HE-NAT

03/01/74

TOTAL

2-HE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
53 274	1.7970+ 1	4.5000- 1	8.4810- 1	2.5000- 2
53 274	1.9000+ 1	3.3000- 1	8.1610- 1	2.4000- 2
53 274	2.0070+ 1	2.6000- 1	7.7010- 1	2.3000- 2
54 343	4.7500+ 1	2.0000+ 0	3.7700- 1	1.2000- 2
54 343	8.8000+ 1	2.0000+ 0	1.9900- 1	6.0010- 3
69 3160	5.7000+ 3	6.0000+ 2	1.4200- 1	3.0000- 3

03/01/74

ELASTIC

2-HE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3270	1.7600+ 1	6.1000- 1	8.5800- 1	3.0000- 2
71 3270	2.0900+ 1	3.1500- 1	7.3200- 1	2.6000- 2
71 3270	2.3700+ 1	3.4500- 1	6.5400- 1	3.6000- 2
60 1609	6.0000+ 1		2.3000- 1	3.5000- 2
60 1609	1.0400+ 2		6.4000- 2	1.1000- 2
60 1609	1.3800+ 2		2.5000- 2	3.5000- 3

03/01/74

TOTAL
CROSS SECTION

2-HE-3

03/01/74

TOTAL
CROSS SECTION

2-HE-3

03/01/74

ELASTIC
CROSS SECTION

2-HE-3

1-40

2-HE-3 -2

03/01/74

ELASTIC
CROSS SECTION

2-HE-3

03/01/74

N, GAMMA

2-HE-3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 B39	4.0000+ 0	5.0000- 1	4.2000- 5	

03/01/74

TOTAL
CROSS SECTION

3-LI-NAT

03/01/74

TOTAL
CROSS SECTION

3-LI-NAT

03/01/74

TOTAL
CROSS SECTION

3-LI-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

3-LI-NAT

BARN'S

03/01/74

TOTAL
CROSS SECTION

3-LI-NAT

03/01/74

TOTAL

3-LI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55	505	3.2900+ 0	2.1000+ 0	5.0000- 2	50	281	4.2000+ 1	1.0000+ 0	6.8410- 1
57	368	1.4800+ 1	1.2400+ 0	6.0010- 2	49	286	9.0000+ 1	3.1400- 1	6.0010- 3

03/01/74

ELASTIC
CROSS SECTION

3-LI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59 579	1.4500+ 0	5.0000- 2	1.4000+ 0	3.0000- 1
59 579	4.2100+ 0	1.0000- 1	2.3000+ 0	3.0000- 1

03/01/74

TOTAL
CROSS SECTION

3-LI-6

BARN

MEV

1-48

3-LI-6 -1

03/01/74

TOTAL
CROSS SECTION

3-L1-6

03/01/74

TOTAL CROSS SECTION

3-LI-6

BARNs

1-50

MEV

3-LI-6 -3

03/01/74

TOTAL
CROSS SECTION

3-L1-6

03/01/74

ELASTIC
CROSS SECTION

3-L1-6

1-51

3-L1-6 -4

03/01/74

ELASTIC
CROSS SECTION

3-LI-6

ECSIL-841 (63)

03/01/74

TOTAL

3-LI-6

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54	6	1.0000-3	4.0000+0	1.0000+0
57	493	2.5000+0	1.4000+0	1.4000-1
57	493	1.4000+1	1.3700+0	6.0000-2
52	81	1.4000+1	1.3900+0	5.0000-2

03/01/74

ELASTIC

3-LI-6

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68	1632	4.8300+0	4.7000-2	1.3570+0
68	1632	5.7400+0	2.3000-1	1.2760+0
68	1632	7.5000-0	1.7000-1	1.1940+0
63	2335	1.4000+1	8.7600-1	9.5000-2
65	1627	1.4000+1	8.5000-1	9.0000-2
64	1633	1.4100+1	1.0000-1	8.8300-1

03/01/74

TOTAL
CROSS SECTION

3-LI-7

03/01/74

TOTAL
CROSS SECTION

3-L1-7

1-54

MEV

3-L1-7 -2

03/01/74

TOTAL
CROSS SECTION

3-LI-7

BARNs

03/01/74

ELASTIC
CROSS SECTION

3-LI-7

03/01/74

N, GAMMA
CROSS SECTION

3-LI-7

03/01/74

TOTAL
CROSS SECTION

3-LI-7

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52 221	2.8000- 3		5.1010- 1	2.0000- 1
54 225	2.5700- 1	2.0000- 3	1.1800+ 1	1.2000+ 0
57 493	2.5000+ 0		2.0000+ 0	3.0000- 1
52 81	1.4000+ 1		1.4500+ 0	3.0000- 2
57 493	1.4000+ 1		1.3500+ 0	8.0010- 2

03/01/74

ELASTIC

3-LI-7

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 841	1.5000+ 0	4.0000- 2	1.3750+ 0	7.0000- 2
68 1632	3.3500+ 0	6.2000- 2	1.8630+ 0	5.2000- 2
63 841	3.3500+ 0		1.6650+ 0	7.0000- 2
63 841	4.0000+ 0	3.0000- 2	1.8000+ 0	7.0000- 2
68 1632	4.8300+ 0	4.7000- 1	2.2250+ 0	8.9000- 2
63 2335	1.4000+ 1		9.3300- 1	1.0000- 1
66 1640	1.4000+ 1		1.0550+ 0	8.5000- 2
64 1633	1.4100+ 1	1.0000- 1	9.6900- 1	1.1000- 1

03/01/74

N, GAMMA

3-LI-7

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59 354	2.5300- 8		4.0000- 2	8.0000- 3
47 2803	2.5300- 8		3.3000- 2	5.0000- 3

03/01/74

TOTAL

CROSS SECTION

4-BE-9

ECSIL-851 (62)

ECSIL-3100 (58)

BARNs

MEV

1-58

4-BE-9 -1

03/01/74

TOTAL
CROSS SECTION

4-BE-9

BARNs

03/01/74

TOTAL CROSS SECTION

4 BE 9

BARNES

4-BE-9 -3

03/01/74

TOTAL
CROSS SECTION

4-BE-9

03/01/74

TOTAL
CROSS SECTION

4-BE-9

BARNs

03/01/74

TOTAL CROSS SECTION

4-BE-9

03/01/74

TOTAL
CROSS SECTION

4-BE-9

1-64

4-BE-9 -7

03/01/74

TOTAL
CROSS SECTION

4-BE-9

03/01/74

TOTAL
CROSS SECTION

4-BE-9

BARNs

03/01/74

TOTAL
CROSS SECTION

4-BE-9

03/01/74

TOTAL
CROSS SECTION

4-BE-9

03/01/74

ELASTIC
CROSS SECTION

4-BE-9

03/01/74

ELASTIC
CROSS SECTION

4-BE-9

03/01/74

TOTAL

4-BE-9

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844	1.1500- 4	1.1500- 5	6.0710+ 0	59	500	5.0000+ 0	1.4500- 1	1.8300+ 0
49	844	3.0000- 4	3.0000- 5	6.0410+ 0	59	500	6.0000+ 0	1.0500- 1	1.8100+ 0
41	170	9.0000- 1		2.8200+ 0	51	65	1.3900+ 1	1.0000+ 0	1.4100+ 0
67	1527	2.7000+ 0	3.0000- 2	3.0000+ 0	58	609	1.4000+ 1		1.4200+ 0
67	1643	4.0000+ 0	5.0000- 2	1.9900+ 0	52	207	1.4000+ 1		1.4000+ 0
55	296	4.1000+ 0	4.0000- 2	1.9600+ 0	52	81	1.4000+ 1		1.5300+ 0
				2.0000- 1					3.0000- 2

03/01/74

TOTAL
CROSS SECTION

4-BE-9

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3300	1.4500+ 1		1.4400+ 0	1.5000- 2
61 711	1.4670+ 1	1.4000- 1	1.4800+ 0	5.0000- 2
57 368	1.4800+ 1		1.4600+ 0	3.0000- 2
50 281	4.2000+ 1	1.0000+ 0	8.5310- 1	1.0000- 2
49 286	9.0000+ 1		4.3100- 1	8.0010- 3
50 12	9.5000+ 1		3.9600- 1	4.0000- 3
55 2056	1.4000+ 3	2.0000+ 2	3.1000- 1	
69 3160	5.7000+ 3	6.0000+ 2	3.0100- 1	5.0000- 3
71 3180	2.6500+ 4	3.5000+ 3	2.6600- 1	6.0000- 3
68 2350	2.7000+ 4		2.5000- 1	6.0000- 3

03/01/74

ELASTIC

4-BE-9

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55 121	5.4000- 1		3.5200+ 0	
55 121	6.2000- 1		7.5010+ 0	
55 121	7.0000- 1		3.4000+ 0	
64 1643	4.0000+ 0	5.0000- 2	1.3700+ 0	9.0000- 2
59 500	4.1000+ 0	3.7500- 2	1.2600+ 0	6.0000- 2
59 500	5.0000+ 0	1.4500- 1	1.2300+ 0	6.0000- 2
59 500	6.0000+ 0	1.0500- 1	1.0800+ 0	5.0000- 2
66 2585	1.4000+ 1		9.5000- 1	7.0000- 2
58 402	1.4000+ 1		9.4010- 1	5.0000- 2
57 331	1.4200+ 1	5.0000- 1	9.4010- 1	5.0000- 2

03/01/74

TOTAL
CROSS SECTION

5-B -NAT

03/01/74

TOTAL
CROSS SECTION

5-B -NAT

03/01/74

5-B -NAT

TOTAL
CROSS SECTION

BARNs

MEV

1-74

5-B -NAT -3

03/01/74

TOTAL
CROSS SECTION

5-B -NAT

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

5-B -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

5-B -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	1.2100+ 1	
49 844	3.0000- 4	3.0000- 5	9.7010+ 0	
50 247	2.3000- 3		6.3310+ 0	
70 3300	1.4500+ 1		1.3780+ 0	1.4000- 2
50 281	4.2000+ 1	1.0000+ 0	9.8510- 1	2.0000- 2

03/01/74

ELASTIC

5-B -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 1060	1.4000+ 1		9.0000- 1	5.0000- 2

03/01/74

TOTAL
CROSS SECTION

5-B -10

1-78

5-B -10 -1

03/01/74

TOTAL
CROSS SECTION

5-B -10

(EXPANDED BELOW)

ECSIL-1550 (67)

ECSIL-1550 (67)

BARNs

13/01/74

TOTAL
CROSS SECTION

5-B -10

03/01/74

TOTAL
CROSS SECTION

5-B -10

03/01/74

TOTAL
CROSS SECTION

5-B -10

BARNs

03/01/74

TOTAL
CROSS SECTION

5-B -10

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52 252	2.8000- 3		3.1000+ 1	
52 81	1.4000+ 1		1.4700+ 0	3.0000- 2

03/01/74

ELASTIC

5-B -10

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
55 121	5.5000- 1		3.7100+ 0	
55 121	1.0000+ 0		2.4300+ 0	
55 121	1.5000+ 0		2.0000+ 0	

03/01/74

TOTAL CROSS SECTION

5-B -11

1-84

5-B -11 -1

BARNs

03/01/74

ELASTIC
CROSS SECTION

5-B -11

03/01/74

N, GAMMA
CROSS SECTION

5-B -11

1-85

5-B -11 -2

03/01/74

TOTAL
CROSS SECTION

5-B -11

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52	81	1.4000+1	1.4000+0	3.0000-2

03/01/74

ELASTIC

5-B -11

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69	2999	7.5500+0	1.2000-1	1.2300+0
			8.8000-2	

1-86

5-B -11 -3

03/01/74

TOTAL
CROSS SECTION

B203

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

1-88

6-C -NAT -1

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

SN 74

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

1-90

MEV

6-C -NAT -3

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

MEV

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

1-94

MEV

6-C -NAT -7

BARNs

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

(EXPANDED BELOW)

ECSIL-2517 (70)

ECSIL-2517 (70)

ECSIL-2517 (70)

BARNs

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

1-96

MEV

6-C -NAT -9

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

1-98

MEV

6-C -NAT -11

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

1-101

6-C -NAT -14

BARNs

03/01/74

TOTAL CROSS SECTION

6-C -NAT

BARNs

1-102

MEV

6-C -NAT -15

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

1-103

6-C -NAT -16

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

1-104

6-C -NAT -17

BARN

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

03/01/74

TOTAL CROSS SECTION

6-C -NAT

BARN

03/01/74

ELASTIC
CROSS SECTION

6-C -NAT

03/01/74

TOTAL

6-C -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
61 1716	1.8500- 9		6.3000+ 0		50 186	2.0000- 2	7.0010- 3	4.8000+ 0	2.0000- 1
65 949	1.4400- 6		4.7400+ 0	6.0000- 2	46 175	3.5000- 2	5.0000- 3	4.6300+ 0	1.9000- 1
65 949	1.4400- 6		4.6600+ 0	3.0000- 2	46 175	9.5000- 2	5.0000- 3	4.6500+ 0	1.4000- 1
55 1471	1.4600- 6		4.7400+ 0	3.0000- 2	41 170	9.0000- 1		2.6600+ 0	2.0000- 1
49 844	1.1500- 4	1.1500- 5	4.8900+ 0		54 112	1.3150+ 0	3.0000- 3	2.1920+ 0	2.0000- 2
49 844	3.0000- 4	3.0000- 5	4.7200+ 0		46 174	1.6000+ 0	1.5000- 1	1.9000+ 0	5.0000- 2

03/01/74

TOTAL
CROSS SECTION

6-C -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
46	174	2.0000+ 0	1.5000- 1	1.6300+ 0 4.0000- 2	53	274	1.7200+ 1	5.5010- 1 1.3900+ 0 4.2000- 2	
67	1643	4.0000+ 0	5.0000- 2	1.9800+ 0 8.0000- 2	53	274	1.9000+ 1	3.3000- 1 1.1500+ 0 4.4000- 2	
71	3214	4.0400+ 0	9.0000- 2	1.9740+ 0 3.3000- 2	53	274	2.0070+ 1	2.6000- 1 1.5200+ 0 4.6000- 2	
55	296	4.1000+ 0	4.0000- 2	1.8800+ 0 2.0000- 1	45	307	2.5400+ 1	1.2900+ 0	
71	3214	5.0600+ 0	7.0000- 2	1.1800+ 0 4.5000- 2	50	281	4.2000+ 1	1.0000+ 0 1.0890+ 0 1.1000- 2	
71	3214	5.5900+ 0	9.0000- 2	1.1140+ 0 3.2000- 2	54	343	4.7500+ 1	2.0000+ 0 9.8410- 1 2.0000- 2	
51	65	1.3900+ 1	1.0000+ 0	1.2400+ 0 6.0000- 2	54	343	8.8000+ 1	2.0000+ 0 5.6010- 1 8.0010- 3	
52	207	1.4000+ 1		1.2000+ 0 4.0000- 2	49	286	9.0000+ 1	5.5010- 1 1.1000- 2	
52	81	1.4000+ 1		1.3200+ 0 2.0000- 2	50	12	9.5000+ 1	4.9800- 1 3.0000- 3	
51	206	1.4080+ 1	5.0000- 2	1.2790+ 0 4.0000- 3	55	2056	1.4000+ 3	2.0000+ 2 3.8000- 1	
52	78	1.4100+ 1	5.0000- 2	1.2790+ 0 4.0000- 3	70	3195	3.8000+ 3	3.6900- 1 7.0000- 3	
70	3300	1.4500+ 1		1.2900+ 0 9.0000- 3	61	1566	5.0000+ 3	4.0000+ 2 3.1900- 1 2.0000- 2	
61	711	1.4670+ 1	1.4000- 1	1.3900+ 0 4.0000- 2	69	3160	5.7000+ 3	6.0000+ 2 3.7000- 1 6.0000- 3	
68	1941	1.4680+ 1	2.3000- 1	1.3900+ 0 2.0000- 2	62	1657	8.3000+ 3	3.4500- 1 1.5000- 2	
66	1653	1.4680+ 1	4.6000- 1	1.3900+ 0 1.6680- 2	68	2350	2.7000+ 4	3.3000- 1 7.0000- 3	
57	358	1.4800+ 1		1.1800+ 0 1.2000- 1					

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	TEMP KELVIN
55	2057	4.2000-10	1.0500+ 0		2.9500+ 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	TEMP KELVIN
55	2057	1.4700- 9	5.3000- 1		2.9500+ 2

03/01/74

ELASTIC
CROSS SECTION

6-C -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64	886 5.0000- 1	5.0000- 2	3.6500+ 0	2.3000- 1
55	121 5.5000- 1		3.2700+ 0	
55	121 1.0000+ 0		2.6400+ 0	
55	121 1.5000+ 0		2.0000+ 0	
64	1643 4.0000+ 0	5.0000- 2	1.9800+ 0	1.4000- 1
71	3214 4.0400+ 0	9.0000- 2	2.0640+ 0	1.2000- 1
59	579 4.2100+ 0	1.0000- 1	1.8000+ 0	3.0000- 1
59	579 4.7000+ 0	9.0010- 2	1.5000+ 0	3.0000- 1
70	2989 5.0500+ 0	6.5000- 1	1.1020+ 0	2.5000- 2
71	3214 5.0600+ 0	7.0000- 2	1.1060+ 0	2.5000- 2
70	2989 5.5800+ 0	6.5000- 1	9.6000- 1	1.9000- 2
71	3214 5.5900+ 0	9.0000- 2	9.5400- 1	2.5000- 2
59	544 6.0000+ 0		8.1000- 1	
65	889 6.0400+ 0	2.3000- 1	8.9000- 1	9.0000- 2
59	544 6.3000+ 0		1.2400+ 0	
59	544 7.0000+ 0		6.2000- 1	
59	579 7.5800+ 0	1.0000- 1	1.3000+ 0	2.0000- 1
62	1060 1.4000+ 1		7.7500- 1	4.0000- 2
58	402 1.4000+ 1		7.9010- 1	5.0000- 2
66	1659 1.4000+ 1		8.1000- 1	8.0000- 2
64	1661 1.4000+ 1	1.4000+ 0	8.0000- 1	3.0000- 2
65	1639 1.4100+ 1		8.2500- 1	
64	845 1.4100+ 1	9.0000- 1	7.3000- 1	7.0000- 2
59	560 1.4100+ 1		8.0510- 1	
57	331 1.4200+ 1	5.0000- 1	7.9010- 1	5.0000- 2
58	403 1.4500+ 1		7.7010- 1	4.0000- 2
63	1665 1.4600+ 1		8.1000- 1	4.0000- 2

03/01/74

N, GAMMA
CROSS SECTION

6-C -12

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 677	3.0000- 2	7.0010- 3	2.0000- 4	4.0000- 4
61 677	1.6700- 1	3.0000- 3	1.3000- 3	2.0000- 3

03/01/74

TOTAL
CROSS SECTION

6-C -13

03/01/74

N, GAMMA

6-C -13

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 2812	2.5300- 8		1.0000- 3	2.0000- 4
61 2813	2.5300- 8		8.0000- 4	2.0000- 4
57 2814	2.5300- 8		1.0000- 3	3.0000- 4
54 2815	2.5300- 8		9.0000- 4	2.0000- 4

03/01/74

TOTAL
CROSS SECTION

C6H6

03/01/74

TOTAL
CROSS SECTION

7-N -NAT

03/01/74

TOTAL CROSS SECTION

7-N -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

7-N -NAT

1-119

MEV

7-N -NAT -3

03/01/74

TOTAL
CROSS SECTION

7-N -NAT

1-120

MEV

7-N -NAT -4

03/01/74

TOTAL
CROSS SECTION

7-N -NAT

BARNs

03/01/74

TOTAL CROSS SECTION

7-N -NAT

03/01/74

TOTAL
CROSS SECTION

7-N -NAT

03/01/74

ELASTIC
CROSS SECTION

7-N -NAT

1-123

7-N -NAT -7

03/01/74

ELASTIC
CROSS SECTION

7-N -NAT

03/01/74

TOTAL

7-N -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52 78	1.4100+ 1	5.0000- 2	1.7000+ 0	1.0000- 1
52 81	1.4120+ 1	5.0000- 2	1.5900+ 0	3.0000- 2
50 281	4.2000+ 1	1.0000+ 0	1.2200+ 0	2.5000- 2
54 343	4.7500+ 1	2.0000+ 0	1.1100+ 0	2.5000- 2
54 343	8.8000+ 1	2.0000+ 0	6.3610- 1	1.0000- 2
49 286	9.0000+ 1	2.8000+ 1	6.5610- 1	2.1000- 2

03/01/74

ELASTIC

7-N -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 1646	7.0000+ 0		8.5000- 1	5.0000- 2
63 761	1.4100+ 1	6.0010- 1	8.7010- 1	9.0010- 2
54 110	1.4100+ 1	1.0000- 1	8.2010- 1	

03/01/74

N, GAMMA
CROSS SECTION

7-N -14

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59 579	9.5000- 2	1.5000- 2	1.0000- 4	1.0000- 4

03/01/74

TOTAL CROSS SECTION

7-N -15

ECSIL-415 (64)

(EXPANDED BELOW)

ECSIL-3328 (70)

ECSIL-3328 (70)

BARNs

03/01/74

TOTAL
CROSS SECTION

H2O

03/01/74

TOTAL
CROSS SECTION

7-N -15

03/01/74

ELASTIC
CROSS SECTION

7-N -15

1-128

7-N -15 -3

03/01/74

TOTAL
CROSS SECTION

N2 GAS

03/01/74

TOTAL CROSS SECTION

8-0 -NAT

03/01/74

TOTAL CROSS SECTION

8-0 -NAT

BARN'S

1-131

8-0 -NAT -2

03/01/74

TOTAL
CROSS SECTION

8-0 -NAT

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

8-O -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

8-0 -NAT

1-134

MEV

8-0 -NAT -5

BARNs

03/01/74

TOTAL
CROSS SECTION

8-0 -NAT

1-135

MEV

8-0 -NAT -6

03/01/74

TOTAL
CROSS SECTION

8-0 -NAT

1-136

MEV

8-0 -NAT -7

03/01/74

TOTAL
CROSS SECTION

8-0 -NAT

03/01/74

TOTAL
CROSS SECTION

8-0 -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

8-0 -NAT

03/01/74

TOTAL
CROSS SECTION

B-O -NAT

03/01/74

ELASTIC
CROSS SECTION

8-0 -NAT

BARNs

8-0 -NAT -12

03/01/74

TOTAL
CROSS SECTION

8-0 -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	4.0800+ 0	
49 844	3.0000- 4	3.0000- 5	4.1500+ 0	
70 3224	2.3700+ 0		9.6700- 2	9.0000- 3
39 42	2.4600+ 0		1.0500+ 0	3.0000- 2
39 42	2.8800+ 0	4.0000- 2	1.2500+ 0	5.0000- 1
52 207	1.4000+ 1		1.5000+ 0	1.0000- 1
52 81	1.4000+ 1		1.5900+ 0	3.0000- 2
52 78	1.4100+ 1	5.0000- 2	1.6400+ 0	4.0000- 2
45 307	2.5400+ 1		1.6000+ 0	
50 281	4.2000+ 1	1.0000+ 0	1.3580+ 0	1.2000- 2
54 343	4.7500+ 1	2.0000+ 0	1.2200+ 0	2.5000- 2
54 343	8.8000+ 1	2.0000+ 0	7.4310- 1	1.5000- 2
49 286	9.0000+ 1		7.6510- 1	2.0000- 2
50 12	9.5000+ 1		6.6310- 1	7.0010- 1

03/01/74

ELASTIC

8-0 -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 901	9.0000- 1		4.2700+ 0	2.6000- 1
67 1679	1.4000+ 1	3.0000- 2	1.0500+ 0	8.0000- 2
63 761	1.4100+ 1	6.0010- 1	8.8010- 1	9.0010- 2
53 289	1.4100+ 1		7.0010- 1	
66 1681	1.4100+ 1		1.0700+ 0	2.5000- 1

03/01/74

TOTAL
CROSS SECTION

8-0 -16

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
70 3224	2.3700+ 0		8.5300- 2	9.0000- 3

03/01/74

TOTAL CROSS SECTION

8-0 -18

BARNS

03/01/74

TOTAL
CROSS SECTION

8-0 -18

03/01/74

N, GAMMA
CROSS SECTION

8-0 -18

1-145

8-0 -18 -2

03/01/74

N, GAMMA
CROSS SECTION

8-0 -18

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 898	2.5300- 8		2.2000- 4	4.4000- 5

03/01/74

TOTAL
CROSS SECTION

02 GAS

03/01/74

TOTAL
CROSS SECTION

9-F -19

1-148

9-F -19 -1

BARNs

03/01/74

TOTAL
CROSS SECTION

9-F -19

03/01/74

TOTAL
CROSS SECTION

9-F -19

BARNs

03/01/74

TOTAL
CROSS SECTION

9-F -19

1-151

MEV

9-F -19 -4

03/01/74

TOTAL
CROSS SECTION

9-F -19

BARNs

1-152

9-F -19 -5

03/01/74

N,GAMMA
CROSS SECTION

9-F -19

03/01/74

TOTAL

9-F -19

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844	1.1500- 4	1.1500- 5	3.5700+ 0	70	3300	1.4500+ 1	1.7800+ 0	2.0000- 2
49	844	3.0000- 4	3.0000- 5	3.6700+ 0	53	274	1.9000+ 1	3.3000- 1	1.8400+ 0
52	81	1.4000+ 1	1.7000+ 0	5.0000- 2	50	281	4.2000+ 1	1.0000+ 0	1.6030+ 0

03/01/74

ELASTIC CROSS SECTION

9-F -19

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 696	5.6500- 1		4.7000+ 0	5.0000- 1

03/01/74

N,GAMMA

9-F -19

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 2823	2.5300- 8		9.8000- 3	7.0000- 4
47 888	2.5300- 8		9.4000- 3	1.8800- 3
61 677	3.0000- 2	7.0010- 3	4.5000- 3	1.0000- 3
63 1	3.0000- 2	8.0010- 3	4.5000- 3	2.0000- 3

03/01/74

TOTAL
CROSS SECTION

10-NE-NAT

03/01/74

TOTAL
CROSS SECTION

10-NE-NAT

BARN

$\times 10^1$

MEV

03/01/74

TOTAL
CROSS SECTION

10-NE-20

03/01/74

TOTAL
CROSS SECTION

10-NE-22

03/01/74

TOTAL
CROSS SECTION

11-NA-23

03/01/74

TOTAL
CROSS SECTION

11-NA-23

03/01/74

TOTAL
CROSS SECTION

11-NA-23

BARNs

03/01/74

TOTAL CROSS SECTION

11-NA-23

03/01/74

TOTAL
CROSS SECTION

11-NA-23

03/01/74

TOTAL
CROSS SECTION

11-NA-23

03/01/74

TOTAL
CROSS SECTION

11-NA-23

03/01/74

TOTAL
CROSS SECTION

11-NA-23

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

11-NA-23

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

11-NA-23

2-14

11-NA-23 -10

03/01/74

TOTAL
CROSS SECTION

11-NA-23

03/01/74

ELASTIC CROSS SECTION

11-NA-23

BARNs

03/01/74

11-NA-23

N, GAMMA
CROSS SECTION

2-17

MEV

11-NA-23 -13

03/01/74

TOTAL
CROSS SECTION

11-NA-23

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52	81	1.4000+ 1	1.7100+ 0	3.0000- 2	58	975	1.6200+ 1	1.6900+ 0	2.0000- 1
70	3300	1.4500+ 1	1.6800+ 0	1.0000- 2	61	233	2.8400+ 1	1.6300+ 0	5.0000- 2
68	1941	1.4680+ 1	1.7400+ 0	3.0000- 2	50	281	4.2000+ 1	1.0000+ 0	1.6700+ 0
66	1653	1.4680+ 1	1.7400+ 0	2.7840- 2					

03/01/74

ELASTIC

11-NA-23

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1699	3.0000- 1	2.5000- 2	2.7300+ 0
64	886	5.0000- 1	5.0000- 2	3.4400+ 0
64	886	8.0000- 1	5.0000- 2	6.2100+ 0
62	714	9.8000- 1	5.0000- 2	3.5200+ 0
62	714	1.5000+ 0	4.0000- 2	2.1000+ 0
65	1509	2.0000+ 0	5.0000- 2	2.6000+ 0
62	714	2.5150+ 0	3.3000- 2	2.4400+ 0

03/01/74

N, GAMMA

11-NA-23

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58	43	2.1000- 2	4.0000- 3	1.6700- 3
68	2856	2.4000- 2		1.6500- 3
63	1	3.0000- 2	8.0010- 3	5.0000- 3
63	1	6.5000- 2	2.1000- 2	7.0010- 4
59	526	1.9500- 1	2.5000- 2	7.0010- 4
58	363	2.0000- 1	1.5000- 2	1.8000- 3
57	521	1.4500+ 1		3.3000- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
47	888	2.5300- 8	6.3000- 1	1.2600- 1	1.4800+ 1
56	2825	2.5300- 8	5.3700- 1	6.0000- 3	1.5000+ 1
57	23	2.1000- 2	4.0000- 3	1.0700- 3	2.3000- 4
57	305	2.4000- 2	5.0000- 3	1.0000- 3	2.0000- 4

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

12-MG-NAT -3

03/01/74

TOTAL CROSS SECTION

12-MG-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

2-24

12-MG-NAT -6

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

03/01/74

ELASTIC
CROSS SECTION

12-MG-NAT

03/01/74

TOTAL

12-MG-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		3.3500+ 0	3.0000- 2	54 107	1.4100+ 1	2.0000- 2	1.7400+ 0	5.0000- 2
62 691	2.0000+ 0		2.5700+ 0	8.0010- 2	70 3300	1.4500+ 1		1.8130+ 0	1.5000- 2
62 691	3.0000+ 0		2.6700+ 0	8.0010- 2	57 368	1.4800+ 1		1.8300+ 0	5.0000- 2
62 691	5.0000+ 0		2.0200+ 0	6.0010- 2	54 107	1.6000+ 1	2.0000- 2	1.7200+ 0	5.0000- 2
52 207	1.4000+ 1		1.8000+ 0	2.0000- 1	54 107	1.8000+ 1	2.0000- 2	1.6900+ 0	5.0000- 2
52 81	1.4000+ 1		1.7500+ 0	3.0000- 2	61 233	2.8400+ 1		1.9700+ 0	4.0000- 2

03/01/74

TOTAL
CROSS SECTION

12-MG-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
50 281	4.2000+ 1	1.0000+ 0	1.7230+ 0	2.4000- 2
49 286	9.0000+ 1		1.0300+ 0	2.0000- 2

03/01/74

ELASTIC

12-MG-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1699	3.0000- 1	2.5000- 2	9.8400+ 0	3.5000- 1
64 886	5.0000- 1	5.0000- 2	6.2400+ 0	1.3000- 1
64 886	8.0000- 1	5.0000- 2	3.8000+ 0	1.3000- 1
68 2996	1.5000+ 0	5.0000- 1	2.5420+ 0	5.3000- 2
64 845	1.4100+ 1	9.0000- 1	8.2000- 1	1.0000- 1
60 631	1.4600+ 1	1.0000- 1	7.5000- 1	9.0000- 2

03/01/74

N, GAMMA

12-MG-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0010- 3	4.0000- 4	3.0000- 4
61 677	3.0000- 2	7.0010- 3	4.0000- 4	2.0000- 4
61 677	6.5000- 2	2.0000- 2	2.1000- 3	7.0010- 4
63 1	6.5000- 2	2.1000- 2	2.1000- 3	8.0010- 4
68 2220	1.4100+ 1	1.3500+ 0	2.8000- 4	4.5000- 5

03/01/74

TOTAL
CROSS SECTION

12-MG-25

03/01/74

TOTAL
CROSS SECTION

12-MG-26

03/01/74

N, GAMMA

12-MG-26

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		4.8000- 2	9.6000- 3
58 363	2.0000- 1	1.5000- 2	8.2000- 3	1.2000- 3
58 363	2.7000+ 0		3.5000- 4	6.9000- 4
68 3375	2.9000+ 0	2.0000- 1	2.1000- 4	3.0000- 5
58 363	4.0000+ 0		2.5000- 4	5.0000- 5
57 521	1.4500+ 1		2.0000- 4	5.0000- 5

03/01/74

TOTAL
CROSS SECTION

MGO

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		7.8000+ 0	2.0000- 1

03/01/74

TOTAL
CROSS SECTION

13-AL-27

BARN

03/01/74

TOTAL
CROSS SECTION

13-AL-27

ECSIL-507 (59)

ECSIL-814 (65)

ECSIL-15 (58)

BARNs

MEV

2-34

13-AL-27 -2

03/01/74

TOTAL
CROSS SECTION

13-AL-27

BARN

03/01/74

TOTAL CROSS SECTION

13-AL-27

03/01/74

TOTAL
CROSS SECTION

13-AL-27

BARNs

03/01/74

TOTAL
CROSS SECTION

13-AL-27

BARNs

03/01/74

TOTAL
CROSS SECTION

13-AL-27

03/01/74

TOTAL
CROSS SECTION

13-AL-27

BARNs

MEV

2-40

13-AL-27 -8

03/01/74

TOTAL CROSS SECTION

13-AL-27

BARNS

2-41

MEV

13-AL-27 -9

03/01/74

TOTAL
CROSS SECTION

13-AL-27

BARN

MEV

2-42

13-AL-27 -10

03/01/74

13-AL-27

TOTAL
CROSS SECTION

BARNs

MEV

2-43

13-AL-27 -11

03/01/74

TOTAL
CROSS SECTION

13-AL-27

BARNs

03/01/74

TOTAL
CROSS SECTION

13-AL-27

03/01/74

TOTAL
CROSS SECTION

13-AL-27

13-AL-27 -14

03/01/74

TOTAL
CROSS SECTION

13-AL-27

03/01/74

TOTAL CROSS SECTION

13-AL-27

BARN

03/01/74

TOTAL
CROSS SECTION

13-AL-27

03/01/74

TOTAL
CROSS SECTION

13-AL-27

03/01/74

ELASTIC
CROSS SECTION

13-AL-27

2-50

13-AL-27 -18

03/01/74

ELASTIC
CROSS SECTION

13-AL-27

BARNS

03/01/74

N. GAMMA

13-AL-27

CROSS SECTION

BARNS

MEV

2-52

13-AL-27 -20

03/01/74

N,GAMMA
CROSS SECTION

13-AL-27

03/01/74

TOTAL

13-AL-27

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		1.4500+ 0	2.0000- 2
49 844	1.1500- 4	1.1500- 5	1.4500+ 0	
49 844	3.0000- 4	3.0000- 5	1.4700+ 0	
66 2584	7.5640- 1		3.4370+ 0	6.0000- 3
41 170	9.0000- 1		3.3900+ 0	2.5000- 1
67 1527	2.7000+ 0	3.0000- 2	3.1500+ 0	1.2000- 1
62 341	2.7600+ 0	2.0000- 2	2.8000+ 0	2.5000- 1
65 1562	2.7700+ 0		2.9350+ 0	1.5000- 2
55 296	4.1000+ 0	4.0000- 2	2.3000+ 0	2.0000- 1
69 2025	8.9400+ 0	5.0000- 1	2.2000+ 0	4.0000- 2
62 1740	1.4000+ 1		1.7900+ 0	2.0000- 2
59 567	1.4000+ 1		1.7300+ 0	6.0010- 2
52 207	1.4000+ 1		1.8000+ 0	1.0000- 1
52 81	1.4000+ 1		1.7300+ 0	3.0000- 2
54 107	1.4100+ 1	2.0000- 2	1.7500+ 0	5.0000- 2
70 3300	1.4500+ 1		1.7150+ 0	1.1000- 2
61 711	1.4670+ 1	1.4000- 1	1.8000+ 0	5.0000- 2
69 2988	1.4800+ 1		1.7500+ 0	8.7500- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 368	1.4800+ 1		1.7500+ 0	8.0010- 2
54 107	1.6000+ 1	2.0000- 2	1.6700+ 0	5.0000- 2
54 107	1.8000+ 1	2.0000- 2	1.5800+ 0	5.0000- 2
53 274	1.9000+ 1	3.3000- 1	1.8400+ 0	5.5010- 2
45 307	2.5400+ 1		1.8500+ 0	1.8500- 1
61 233	2.8400+ 1		1.9700+ 0	8.0010- 2
50 281	4.2000+ 1	1.0000+ 0	1.7820+ 0	2.0000- 2
54 343	4.7500+ 1	2.0000+ 0	1.7500+ 0	3.5000- 2
54 343	8.8000+ 1	2.0000+ 0	1.2000+ 0	2.5000- 2
49 286	9.0000+ 1		1.1200+ 0	2.0000- 2
50 12	9.5000+ 1		9.9310- 1	1.1000- 2
55 2056	1.4000+ 3	2.0000+ 2	7.0000- 1	
70 3195	3.8000+ 3		6.6600- 1	1.6000- 2
61 1566	5.0000+ 3	4.0000+ 2	6.1400- 1	3.3000- 2
69 7160	5.7000+ 3	6.0000+ 2	7.1800- 1	1.3000- 2
62 1657	8.3000+ 3		6.0000- 1	2.3000- 2
71 3180	2.6500+ 4	3.5000+ 3	6.5600- 1	1.1000- 2
68 2350	2.7000+ 4		5.7300- 1	1.7000- 2

03/01/74

ELASTIC
CROSS SECTION

13-AL-27

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 596	2.2000- 1		3.7500+ 0	
63 1699	3.0000- 1	2.5000- 2	4.5600+ 0	2.2000- 1
64 886	5.0000- 1	5.0000- 2	3.9400+ 0	1.2000- 1
63 1750	6.5000- 1		3.6500+ 0	1.2000- 1
64 886	8.0000- 1	5.0000- 2	4.1000+ 0	1.2000- 1
68 2996	1.5000+ 0	5.0000- 1	2.5510+ 0	5.9000- 2
63 820	2.7600+ 0		2.5000+ 0	4.5000- 1
61 846	3.1000+ 0		2.1000+ 0	1.0000- 1
59 567	1.4000+ 1		8.3010- 1	4.0000- 2
58 403	1.4500+ 1		6.7010- 1	3.0000- 2

03/01/74

N, GAMMA

13-AL-27

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 2573	2.5300- 8		2.4600- 1	7.0000- 3
47 888	2.5300- 8		2.1000- 1	4.2000- 2
58 357	2.1000- 2		2.6000- 3	2.2000- 4
58 43	2.1000- 2	4.0000- 3	1.8500- 3	2.7000- 4
68 2856	2.4000- 2		3.3600- 3	1.0000- 3
57 305	2.4000- 2	5.0000- 3	1.4000- 3	2.0000- 4
61 677	3.0000- 2	7.0010- 3	2.8000- 3	7.0010- 4
63 1	3.0000- 2	8.0010- 3	2.8000- 3	8.0010- 4
58 363	2.0000- 1	1.5000- 2	5.6000- 3	5.6000- 4
68 3375	2.9000+ 0	2.0000- 1	3.0000- 4	5.0000- 5
67 1991	3.0000+ 0	2.0000- 1	6.0000- 4	1.0000- 4
69 3017	1.4100+ 1	1.3500+ 0	4.1000- 4	8.0000- 5
57 521	1.4500+ 1		5.3010- 4	1.3000- 4
63 372	1.4600+ 1		5.6010- 4	
67 1695	1.4700+ 1		5.6000- 4	1.0000- 4

03/01/74

TOTAL
CROSS SECTION

AL203

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		1.5100+ 1	2.0000- 1

03/01/74

14-SI-NAT

TOTAL
CROSS SECTION

03/01/74

TOTAL
CROSS SECTION

14-SI-NAT

(EXPANDED BELOW)
ECSIL-3162 (71)

ECSIL-3162 (71)

ECSIL-3162 (71)

BARNs

03/01/74

TOTAL
CROSS SECTION

14-SI-NAT

(EXPANDED BELOW)
ECSIL-2517 (68)

ECSIL-2517 (68)

ECSIL-2517 (68)

BARNS

03/01/74

TOTAL
CROSS SECTION

14-SI-NAT

BARNs

03/01/74

TOTAL CROSS SECTION

14-SI-NAT

BARNs

2-60

MEV

14-SI-NAT -5

03/01/74

TOTAL
CROSS SECTION

14-SI-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

14-SI-NAT

03/01/74

TOTAL
CROSS SECTION

14-SI-NAT

03/01/74

TOTAL
CROSS SECTION

14-SI-NAT

03/01/74

ELASTIC
CROSS SECTION

14-SI-NAT

2-64

14-SI-NAT -9

03/01/74

ELASTIC
CROSS SECTION

14-SI-NAT

03/01/74

TOTAL

14-SI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		2.2200+ 0	5.0000- 2	70 3300	1.4500+ 1		1.7630+ 0	1.4000- 2
52 81	1.4000+ 1		1.8300+ 0	4.0000- 2	53 274	1.9000+ 1	3.3000- 1	1.9400+ 0	5.8020- 2

03/01/74

ELASTIC
CROSS SECTION

14-SI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2338	3.0000- 1	2.5000- 2	4.4900+ 0	2.5000- 1
64 2338	5.0000- 1	5.0000- 2	3.5400+ 0	2.1000- 1
64 2338	8.0000- 1	5.0000- 2	4.4000+ 0	3.5000- 1
62 901	9.0000- 1		3.7000+ 0	1.9000- 1
68 2996	1.5000+ 0	5.0000- 1	2.5820+ 0	4.3000+ 1
61 846	3.1000+ 0		2.0000+ 0	1.0000- 1
64 845	1.4100+ 1	9.0000- 1	7.5000- 1	7.0000- 2

03/01/74

N, GAMMA

14-SI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 633	2.5000- 2	1.0000- 3	4.2000- 2	8.0020- 3
61 677	3.0020- 2	7.0020- 3	1.3000- 2	4.0000- 3
63 1	3.0000- 2	8.0020- 3	1.3000- 2	5.0000- 3
63 1	6.5000- 2	2.1000- 2	2.0000- 3	8.0020- 4
60 633	2.2000- 1	2.0000- 2	1.0000- 2	5.0000- 3
60 633	8.3000- 1	4.0000- 2	2.0000- 2	1.0000- 2
67 2232	1.4100+ 1	1.3500+ 0	4.4000- 4	6.5000- 5

03/01/74

ELASTIC
CROSS SECTION

14-SI-28

BARN

03/01/74

N, GAMMA

14-SI-28

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
68 2751	1.4100+ 1		4.4000- 4	9.0000- 5

03/01/74

N, GAMMA
CROSS SECTION

14-SI-30

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.1600- 1	2.3200- 2
57 23	2.1000- 2	4.0000- 3	1.8000- 3	1.5000- 3
58 43	2.1000- 2	4.0000- 3	2.0300- 3	5.1020- 4
58 363	2.0000- 1	1.5000- 2	5.5000- 3	5.0000- 4
58 363	2.7000+ 0		3.0000- 4	3.0000- 4
58 363	4.0000+ 0		6.7000- 4	1.0000- 4
57 521	1.4500+ 1		4.9000- 4	5.0000- 5
67 1695	1.4700+ 1		4.8000- 4	5.0000- 5

03/01/74

TOTAL
CROSS SECTION

SI02

03/01/74

TOTAL

SI02

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		9.4000+ 0	2.0000- 1

03/01/74

TOTAL
CROSS SECTION

15-P -31

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

15-P -31

03/01/74

TOTAL CROSS SECTION

15-P -31

BARNs

03/01/74

TOTAL
CROSS SECTION

15-P -31

03/01/74

TOTAL

15-P -31

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844	1.1500- 4	1.1500- 5	4.1100+ 0	52	81	1.4000+ 1	1.9700+ 0	4.0000- 2
49	844	3.0000- 4	3.0000- 5	4.1600+ 0	70	3300	1.4500+ 1	2.0200+ 0	1.8000- 2
47	46	2.4000- 2	1.5000- 2	3.8000+ 0	61	233	2.8400+ 1	2.0300+ 0	6.0020- 2

03/01/74

ELASTIC
CROSS SECTION

15-P -31

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1509	2.0000+ 0	5.0000- 2	3.3000+ 0	
65 1765	1.4200+ 1	7.1000- 1	8.7000- 1	2.0000- 3

03/01/74

N, GAMMA

15-P -31

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		2.3000- 1	4.6000- 2
63 1	3.0000- 2	8.0020- 3	7.0020- 3	2.0000- 3
63 1	6.5000- 2	2.1000- 2	5.0000- 4	3.0000- 3
68 2220	1.4100+ 1	1.3500+ 0	3.4000- 4	5.0000- 5
67 1695	1.4700+ 1		3.4000- 4	1.0000- 4

03/01/74

TOTAL
CROSS SECTION

16-S -NAT

03/01/74

TOTAL
CROSS SECTION

16-S -NAT

03/01/74

TOTAL
CROSS SECTION

16-S -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

16-S -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

16-S -NAT

2-79

MEV

16-S -NAT -5

03/01/74

16-S -NAT

TOTAL
CROSS SECTION

2-80

MEV

16-S -NAT -6

BARNs

03/01/74

TOTAL
CROSS SECTION

16-S -NAT

03/01/74

TOTAL
CROSS SECTION

16-S -NAT

BARN

MEV

2-82

16-S -NAT -8

03/01/74

TOTAL
CROSS SECTION

16-S -NAT

03/01/74

ELASTIC
CROSS SECTION

16-S -NAT

2-83

16-S -NAT -9

03/01/74

ELASTIC
CROSS SECTION

16-S -NAT

03/01/74

TOTAL

16-S -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844	1.1500- 4	1.1500- 5	1.1300+ 0	54	107	1.4100+ 1	2.0000- 2	2.0000+ 0
49	844	3.0000- 4	3.0000- 5	1.1400+ 0	54	107	1.6000+ 1	2.0000- 2	1.9000+ 0
39	42	2.6800+ 0	4.0000- 2	3.1200+ 0	54	107	1.8000+ 1	2.0000- 2	1.8100+ 0
59	559	3.6600+ 0	2.0000- 1	2.5800+ 0	61	233	2.8400+ 1		2.1100+ 0
52	81	1.4000+ 1		1.9200+ 0	50	281	4.2000+ 1	1.0000+ 0	1.9740+ 0
				4.0000- 2					3.0000- 2

03/01/74

ELASTIC

16-S -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59	559	3.6600+ 0	2.0000- 1	1.8000+ 0	59	567	1.4000+ 1	9.1020- 1	5.0000- 2
62	1060	1.4000+ 1		8.2000- 1	64	845	1.4100+ 1	9.0000- 1	7.4000- 1
				5.0000- 2					8.0000- 2

03/01/74

N, GAMMA
CROSS SECTION

16-S -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BAFNS	DELTA BARNs
61 677	3.0000- 2	7.0020- 3	2.5000- 2	8.0020- 3
63 1	3.0000- 2	8.0020- 3	2.5000- 2	9.0020- 3
63 1	6.5000- 2	2.1000- 2	8.0020- 4	7.0020- 3
69 3017	1.4100+ 1	1.3500+ 0	5.0000- 4	1.0000- 1

03/01/74

TOTAL
CROSS SECTION

16-S -32

03/01/74

ELASTIC
CROSS SECTION

16-S -32

2-86

16-S -32 -1

03/01/74

N, GAMMA
CROSS SECTION

16-S -32

03/01/74

N, GAMMA
CROSS SECTION

16-S -34

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		2.6000- 1	5.2000- 2

03/01/74

TOTAL
CROSS SECTION

17-CL-NAT

03/01/74

17-CL-NAT

TOTAL
CROSS SECTION

(EXPANDED BELOW)

ECISIL-2517 (70)

MEV

2-90

17-CL-NAT -2

BARNs

03/01/74

TOTAL
CROSS SECTION

17-CL-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

17-CL-NAT

BARNs

03/01/74

N, GAMMA
CROSS SECTION

17-CL-NAT

03/01/74

TOTAL

17-CL-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs		
49	844	3.0000- 4	3.0000- 5	3.3200+ 0	61	233	2.8400+ 1	2.1000+ 0	7.0000- 2		
52	81	1.4120+ 1	4.0000- 2	2.0000+ 0	5.0000- 2	50	281	4.2000+ 1	8.4000- 1	2.1100+ 0	4.0000- 2
70	3300	1.4500+ 1	2.0000+ 0	2.0000- 2	49	286	9.0000+ 1	1.2800+ 1	1.3900+ 0	3.0000- 2	
45	307	2.5400+ 1	1.8800+ 0	1.8800- 1							

03/01/74

ELASTIC

17-CL-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
50	235	2.7000- 3	1.6070+ 0	
65	1509	2.0000+ 0	5.0000- 2	3.1000+ 0

03/01/74

N, GAMMA

17-CL-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000- 2	8.0020- 3	1.1000- 2	5.0000- 3
63	1 6.5000- 2	2.1000- 2	4.0000- 3	3.0000- 3

03/01/74

N, GAMMA
CROSS SECTION

17-CL-35

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 3216	2.5300- 8		4.1800+ 1	1.2000+ 0

03/01/74

N, GAMMA
CROSS SECTION

17-CL-37

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 43	2.1000- 2	4.0000- 3	3.6100- 2	6.4020- 4
68 2856	2.4000- 2		3.1200- 3	1.0000- 3
56 363	2.0000- 1	1.5000- 2	4.3100- 3	4.0000- 5
58 363	2.7000+ 0		6.5000- 4	9.0000- 5
68 3375	2.9000+ 0	2.0000- 1	5.9000- 4	9.0000- 5
58 363	4.0000+ 0		3.4000- 4	9.0000- 5

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
47 888	2.5300- 8		5.6000- 1	1.1200- 1 3.7000+ 1
57 305	2.4000- 2	5.0000- 3	1.1000- 3	2.0000- 4 3.7000+ 1

03/01/74

TOTAL
CROSS SECTION

18-AR-NAT

2-96

MEV

18-AR-NAT -1

03/01/74

TOTAL
CROSS SECTION

18-AR-NAT

03/01/74

TOTAL
CROSS SECTION

18-AR-NAT

BARN

03/01/74

TOTAL

18-AR-NAT

REFERENCE	ENERGY	DELTA	X-SEC	DELTA
	MEV	MEV	BARN	BARN
54 343	4.7500+ 1	2.0000+ 0	2.0800+ 0	4.5000- 2
54 343	8.8000+ 1	2.0000+ 0	1.4800+ 0	2.0000- 2

03/01/74

ELASTIC

18-AR-NAT

REFERENCE	ENERGY	DELTA	X-SEC	DELTA
	MEV	MEV	BARN	BARN
67 1679	1.4000+ 1	3.0000- 2	1.0000+ 0	7.0000- 2

03/01/74

N,GAMMA

18-AR-NAT

REFERENCE	ENERGY	DELTA	X-SEC	DELTA
	MEV	MEV	BARN	BARN
69 2998	2.5300- 8		6.8700- 1	9.0000- 3

03/01/74

TOTAL
CROSS SECTION

18-AR-36

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 2029	7.5600- 8		7.7000+ 1	9.0000+ 0

03/01/74

N, GAMMA
CROSS SECTION

18-AR-40

03/01/74

TOTAL

CROSS SECTION

ECSIL-228 (55)

ECSIL-508 (59)

ECSIL-55 (50)

2-101

MEV

19-K -NAT -1

BARNs

03/01/74

TOTAL
CROSS SECTION

19-K -NAT

03/01/74

TOTAL
CROSS SECTION

19-K -NAT

19-K -NAT -3

03/01/74

TOTAL
CROSS SECTION

19-K -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

19-K -NAT

2-105

MEV

19-K -NAT -5

BARNs

03/01/74

TOTAL
CROSS SECTION

19-K -NAT

03/01/74

ELASTIC
CROSS SECTION

19-K -NAT

03/01/74

TOTAL

19-K -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	46 6.2000-	1 7.0020-	2 2.3000+	0 1.0000-	52	81 1.4000+		7.2400+ 0 4.0000-	2
47	46 8.3000-	1 4.0000-	2 2.7000+	0 1.0000-	70	3300 1.4500+		2.0500+ 0 3.0000-	2
39	42 2.8800+	0 4.0000-	2 3.1300+	0 1.5000-	68	1941 1.4680+	1 2.3000-	2.1400+ 0 4.0000-	2
61	637 3.6600+	0 2.0000-	1 3.4300+	0 2.4000-	61	233 2.8400+		2.1300+ 0 2.0000-	1

03/01/74

ELASTIC
CROSS SECTION

19-K -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1699	3.0000- 1	2.5000- 2	3.2800+ 0	3.6000- 1
61 846	3.1000+ 0		3.0000+ 0	1.0000- 1
61 637	3.6600+ 0	2.0000- 1	3.0800+ 0	2.4000- 1

03/01/74

N, GAMMA

19-K -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0020- 3	1.6000- 2	3.0000- 3
63 1	6.5000- 2	2.1000- 2	4.0000- 3	2.0000- 3

03/01/74

TOTAL
CROSS SECTION

19-K -39

03/01/74

N, GAMMA
CROSS SECTION

19-K -40

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3244	2.5000- 8		3.0000+ 1	8.0000+ 0

03/01/74

TOTAL
CROSS SECTION

19-K -41

03/01/74

N, GAMMA
CROSS SECTION

19-K -41

2-111

19-K -41 -1

03/01/74

N, GAMMA
CROSS SECTION

19-K -41

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.0000+ 0	2.0000- 1
57 23	2.1000- 2	4.0000- 3	2.1000- 2	5.0000- 3
66 1788	2.4000- 2		3.0000- 2	5.0000- 3
57 521	1.4500+ 1		3.5000- 3	7.0020- 4

03/01/74

TOTAL
CROSS SECTION

20-CA-NAT

BARN

03/01/74

TOTAL
CROSS SECTION

20-CA-NAT

BARNs

03/01/74

20-CA-NAT

TOTAL
CROSS SECTION

(EXPANDED BELOW)

ECSIL-3164 (71)

ECSIL-3164 (71)

ECSIL-3164 (71)

BARNs

03/01/74

TOTAL
CROSS SECTION

20-CA-NAT

(EXPANDED BELOW)
ECSIL-2517 (70)

ECSIL-2517 (70)

ECSIL-2517 (70)

BARNs

3-4

MEV

20-CA-NAT -4

03/01/74

TOTAL
CROSS SECTION

20-CA-NAT

3-5

MEV

20-CA-NAT -5

BARN

03/01/74

TOTAL
CROSS SECTION

20-CA-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

20-CA-NAT

03/01/74

TOTAL
CROSS SECTION

20-CA-NAT

03/01/74

ELASTIC
CROSS SECTION

20-CA-NAT

03/01/74

TOTAL

20-CA-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs		
49	844	1.1500- 4	1.1500- 5	4.5600+ 0	52	81	1.4000+ 1	2.1900+ 0	4.0000- 2		
49	844	3.0000- 4	3.0000- 5	4.3700+ 0	70	3300	1.4500+ 1	2.1000+ 0	3.0000- 2		
61	632	8.6500- 1	3.0000- 3	2.0000+ 0	68	1941	1.4680+ 1	2.3000- 1	2.1700+ 0	3.0000- 2	
61	637	3.6600+ 0	2.0000- 1	3.5800+ 0	1.8000- 1	50	281	4.2000+ 1	1.0000+ 0	2.1100+ 0	2.6000- 2
60	576	4.1000+ 0	1.0000- 1	3.6000+ 0	1.0000- 1						

03/01/74

ELASTIC
CROSS SECTION

20-CA-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 708	9.0000- 1	4.0000- 2	2.6200+ 0	1.4000- 1
61 846	3.1000+ 0		3.6000+ 0	1.0000- 1
61 637	3.6600+ 0	2.0000- 1	3.0900+ 0	2.1000- 1
60 576	4.1000+ 0	1.0000- 1	2.9000+ 0	3.0000- 1
69 2890	6.0900+ 0		1.6500+ 0	8.0000- 2
69 2890	7.0500+ 0		1.6700+ 0	8.0000- 2
69 2890	8.0500+ 0		1.5800+ 0	8.0000- 2
60 631	1.4600+ 1	1.0000- 1	8.2000- 1	7.0000- 2

03/01/74

N, GAMMA

20-CA-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0020- 3	1.0000- 2	2.0000- 3
63 1	6.5000- 2	2.1000- 2	3.0000- 3	2.0000- 3
60 674	4.0000- 1	9.0020- 2	9.0020- 3	5.0000- 4
67 2232	1.4100+ 1	1.3500+ 0	5.2000- 4	8.0000- 5

03/01/74

TOTAL CROSS SECTION

20-CA-40

BARNs

03/01/74

TOTAL
CROSS SECTION

20-CA-40

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1925	2.7600+ 0	1.0000- 1	5.0000+ 0	5.0000- 1

03/01/74

ELASTIC

20-CA-40

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2016	1.4100+ 1		9.3600- 1	1.0000- 1

03/01/74

N, GAMMA

20-CA-40

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2751	1.4100+ 1		5.0000- 4	1.0000- 4

03/01/74

TOTAL
CROSS SECTION

20-CA-42

03/01/74

TOTAL
CROSS SECTION

20-CA-44

03/01/74

N, GAMMA

20-CA-44

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		6.3000- 1	1.2600- 1

03/01/74

N,GAMMA
CROSS SECTION

20-CA-48

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1695	1.4700+ 1		2.6000- 4	8.0000- 5

03/01/74

21-SC-45

TOTAL
CROSS SECTION

ECSIL-548 (58)

ECSIL-157 (57)

BARNs

3-16

MEV

21-SC-45 -1

03/01/74

TOTAL
CROSS SECTION

21-SC-45

03/01/74

TOTAL CROSS SECTION

21-SC-45

BARNs

03/01/74

ELASTIC CROSS SECTION

21-SC-45

BARNs

3-18

21-SC-45 -3

03/01/74

N, GAMMA
CROSS SECTION

21-SC-45

03/01/74

N, GAMMA

21-SC-45

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1695	1.4700+ 1		2.3000- 3	7.0000- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
47 888	2.5300- 8		2.2000+ 1	4.4000+ 0	8.5000+ 1
57 23	2.1000- 2	4.0000- 3	5.4020- 2	3.0000- 2	8.5020+ 1

03/01/74

TOTAL
CROSS SECTION

22-TI-NAT

03/01/74

TOTAL
CROSS SECTION

22-TI-NAT

03/01/74

TOTAL CROSS SECTION

22-TI-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

22-TI-NAT

03/01/74

TOTAL CROSS SECTION

22-TI-NAT

(EXPANDED BELOW)
ECSIL-2425 (68)

ECSIL-2425 (68)

ECSIL-2425 (68)

03/01/74

TOTAL
CROSS SECTION

22-TI-NAT

03/01/74

TOTAL
CROSS SECTION

22-TI-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

22-TI-NAT

BARNs

03/01/74

ELASTIC
CROSS SECTION

22-TI-NAT

03/01/74

N, GAMMA
CROSS SECTION

22-TI-NAT

3-28

22-TI-NAT -9

03/01/74

TOTAL
CROSS SECTION

22-TI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	5.1020+ 0	
49 844	3.0000- 4	3.0000- 5	5.3920+ 0	
61 637	3.6600+ 0	2.0000- 1	3.6300+ 0	1.8000- 1
55 296	4.1000+ 0	4.0000- 2	3.7000+ 0	2.0000- 1
51 65	1.3900+ 1	1.0000+ 0	2.3700+ 0	3.5000- 1
59 567	1.4000+ 1		2.2300+ 0	6.0020- 2
52 207	1.4000+ 1		2.2000+ 0	2.0000- 1
52 81	1.4000+ 1		2.2800+ 0	4.0000- 2

03/01/74

ELASTIC

22-TI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 2339	3.0000- 1	2.5000- 2	2.6900+ 0	1.9000- 1
66 2339	5.0000- 1	5.0000- 2	2.5700+ 0	1.0000- 1
62 708	9.0000- 1	4.0000- 2	3.2500+ 0	1.3000- 1
54 103	1.0000+ 0	8.0000- 2	2.8000+ 0	4.2000- 1
65 1509	2.0000+ 0	5.0000- 2	3.0000+ 0	
59 567	1.4000+ 1		1.0400+ 0	5.0000- 2

03/01/74

N, GAMMA

22-TI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 887	2.5300- 8		6.0900+ 0	1.3000- 1
60 633	2.5000- 2	1.0000- 3	2.3000- 2	6.0020- 3
63 1	3.0000- 2	8.0020- 3	2.9000- 2	4.0000- 3
63 1	6.5000- 2	2.1000- 2	5.0000- 3	2.0000- 3
60 633	2.2000- 1	2.0000- 2	2.1000- 2	2.0000- 2
60 633	8.3000- 1	4.0000- 2	1.1000- 2	2.0000- 2

03/01/74

TOTAL
CROSS SECTION

22-TI-46

03/01/74

TOTAL
CROSS SECTION

22-TI-48

03/01/74

TOTAL
CROSS SECTION

22-TI-50

03/01/74

N, GAMMA
CROSS SECTION

22-TI-50

03/01/74

N, GAMMA
CROSS SECTION

22-TI-50

03/01/74

N, GAMMA

22-TI-50

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
58 357	2.1000- 2		2.3000- 3	6.0020- 4
57 305	2.4000- 2	5.0000- 3	5.0000- 3	3.0000- 3
58 1044	2.5000+ 0		8.2000- 4	
58 1044	3.1000+ 0		7.3000- 4	
58 1044	4.0000+ 0		7.0000- 4	
57 521	1.4500+ 1		3.5000- 3	1.0500- 3
67 1695	1.4700+ 1		3.0000- 4	1.0000- 4

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

03/01/74

TOTAL CROSS SECTION

23-V -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

3-40

MEV

23-V -NAT -7

BARNs

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

BARNs

03/01/74

TOTAL CROSS SECTION

23-V -NAT

BARNs

03/01/74

ELASTIC
CROSS SECTION

23-V -NAT

BARNs

03/01/74

N, GAMMA
CROSS SECTION

23-V -NAT

03/01/74

TOTAL
CROSS SECTION

23-V -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65	949	1.4400- 6	5.3600+ 0	7.0000- 2
67	1527	2.7000+ 0	4.7800+ 0	2.0000- 1
61	637	3.6600+ 0	3.8400+ 0	1.9000- 1
51	65	1.3900+ 1	2.5200+ 0	2.4000- 1
52	207	1.4000+ 1	2.4000+ 0	1.0000- 1

03/01/74

N, GAMMA

23-V -NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1	3.0000- 2	8.0020- 3	2.3000- 2
61	677	3.0000- 2	7.0020- 3	3.0000- 2
63	1	6.5000- 2	2.1000- 2	3.0000- 3
69	3017	1.4100+ 1	1.3500+ 0	7.3000- 4

03/01/74

TOTAL
CROSS SECTION

23-V -50

03/01/74

N, GAMMA

23-V -50

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN'S	DELTA BARN'S
53 2572	2.5300- 8		2.2000+ 2	1.9000+ 2
63 2571	2.5300- 8		5.5000+ 1	7.5000+ 1

03/01/74

N. GAMMA
CROSS SECTION

23-V -51

BARN

03/01/74

N, GAMMA
CROSS SECTION

23-V -51

03/01/74

N, GAMMA

23-V -51

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62	2573	2.5300- 8	5.5000+ 0	3.0000- 1	59	526	1.9500- 1	1.5000- 2	7.0020- 3
63	2571	2.5300- 8	4.8800+ 0	1.8000- 1	58	363	2.0000- 1	1.5000- 2	8.0000- 4
47	888	2.5300- 8	4.5000+ 0	9.0000- 1	58	363	2.7000+ 0	1.9700- 3	8.0000- 5
58	43	2.1000- 2	4.0000- 3	3.1600- 2	68	3375	2.9000+ 0	2.0000- 1	1.4000- 3
66	1788	2.4000- 2	4.0000- 2	1.2000- 2	58	363	4.0000+ 0	1.7800- 3	6.0000- 5
57	305	2.4000- 2	5.0000- 3	5.0000- 2	67	1695	1.4700+ 1	3.7000- 4	6.0000- 5

03/01/74

TOTAL
CROSS SECTION

24-CR-NAT

ECSIL-548 (58)

ECSIL-318 (57)

ECSIL-736 (61)

BARN

3-50

MEV

24-CR-NAT -1

03/01/74

TOTAL
CROSS SECTION

24-CR-NAT

03/01/74

TOTAL
CROSS SECTION

24-CR-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

24-CR-NAT

03/01/74

TOTAL
CROSS SECTION

24-CR-NAT

BARNs

3-54

MEV

24-CR-NAT -5

03/01/74

TOTAL
CROSS SECTION

24-CR-NAT

03/01/74

ELASTIC
CROSS SECTION

24-CR-NAT

3-55

24-CR-NAT -6

03/01/74

ELASTIC
CROSS SECTION

24-CR-NAT

3-56

MEV

24-CR-NAT -7

03/01/74

N, GAMMA
CROSS SECTION

24-CR-NAT

03/01/74

N, GAMMA
CROSS SECTION

24-CR-NAT

03/01/74

TOTAL

24-CR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	3.2800+ 0		52 207	1.4000+ 1		2.3000+ 0	2.0000- 1
49 844	3.0000- 4	3.0000- 5	4.5600+ 0		52 81	1.4000+ 1		2.4500+ 0	4.0000- 2

03/01/74

ELASTIC

24-CR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2338	3.0000- 1	2.5000- 2	2.4400+ 0	2.0000- 1	64 2338	8.0000- 1	5.0000- 2	2.8200+ 0	2.3000- 1
64 2338	5.0000- 1	5.0000- 2	2.9500+ 0	1.8000- 1	65 1509	2.0000+ 0	5.0000- 2	2.5000+ 0	

03/01/74

N, GAMMA

24-CR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 633	2.4000- 2	3.0000- 3	1.6200- 1	7.0000- 3	61 677	6.5000- 2	2.0000- 2	3.5000- 3	1.0000- 3
61 677	3.0000- 2	7.0020- 3	1.0000- 2	3.0000- 3	63 1	6.5000- 2	2.1000- 2	3.8000- 3	2.0000- 3
63 1	3.0000- 2	8.0020- 3	1.0000- 2	4.0000- 3	69 3017	1.4100+ 1	1.3500+ 0	9.2000- 4	1.8000- 4

03/01/74

TOTAL CROSS SECTION

24-CR-50

03/01/74

N, GAMMA
CROSS SECTION

24-CR-50

03/01/74

N, GAMMA

24-CR-50

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.1000+ 1	4.4000+ 0

03/01/74

TOTAL
CROSS SECTION

24-CR-52

3-61

MEV

24-CR-52 -1

03/01/74

N, GAMMA
CROSS SECTION

24-CR-52

03/01/74

TOTAL

24-CR-52

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1527	2.7000 ± 0	$3.0000 - 2$	3.8000 ± 0	$1.5000 - 1$

03/01/74

TOTAL
CROSS SECTION

24-CR-53

03/01/74

N, GAMMA
CROSS SECTION

24-CR-53

3-63

24-CR-53 -1

03/01/74

TOTAL
CROSS SECTION

24-CR-54

03/01/74

TOTAL
CROSS SECTION

25-MN-55

03/01/74

TOTAL
CROSS SECTION

25-MN-55

03/01/74

TOTAL
CROSS SECTION

25-MN-55

3-67

25-MN-55 -3

03/01/74

25-MN-55

TOTAL
CROSS SECTION

ECSIL-1552 (66)

ECSIL-74 (51)

(EXPANDED BELOW)
ECSIL-2517 (70)

MEV

3-68

25-MN-55 -4

BARNs

03/01/74

TOTAL
CROSS SECTION

25-MN-55

BARNs

03/01/74

TOTAL
CROSS SECTION

25-MN-55

BARNs

03/01/74

TOTAL CROSS SECTION

25-MN-55

03/01/74

ELASTIC
CROSS SECTION

25-MN-55

03/01/74

N, GAMMA
CROSS SECTION

25-MN-55

03/01/74

N, GAMMA

25-MN-55

CROSS SECTION

MEV

25-MN-55 -9

3-73

BARN

03/01/74

N, GAMMA
CROSS SECTION

25-MN-55

3-74

MEV

25-MN-55 -10

03/01/74

N, GAMMA
CROSS SECTION

25-MN-55

03/01/74

TOTAL

25-MN-55

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844 1.1500- 4	1.1500- 5	6.7820+ 0		70	3300 1.4500+ 1		2.7000+ 0	3.0000- 2
49	844 3.0000- 4	3.0000- 5	3.9800+ 0		61	233 2.8400+ 1		2.3600+ 0	1.2000- 1
52	81 1.4000+ 1		2.5400+ 0	5.0000- 2					

03/01/74

ELASTIC
CROSS SECTION

25-MN-55

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1509	2.0000+ 0	5.0000- 2	3.2000+ 0	

03/01/74

N, GAMMA

25-MN-55

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 889	2.5300- 8		1.0700+ 1	2.1400+ 0
57 23	2.1000- 2	4.0000- 3	5.1020- 2	1.6000- 2
58 43	2.1000- 2	4.0000- 3	6.3020- 2	3.0000- 3
65 867	2.4000- 2		4.0000- 2	3.0000- 3
57 305	2.4000- 2	5.0000- 3	5.5020- 2	6.0020- 3
63 1	3.0000- 2	8.0020- 3	2.2000- 2	2.0000- 3
63 1	3.0000- 2	8.0000- 3	2.2000- 2	2.0000- 3
59 579	4.0000- 2	8.0020- 3	3.9000- 2	1.0000- 2
63 1	6.5000- 2	2.1000- 2	9.0000- 3	2.0000- 3
59 526	1.9500- 1	1.5000- 1	1.1000- 2	1.0000- 3
68 3375	2.9000+ 0	2.0000- 1	2.2000- 3	2.0000- 4
67 1991	3.0000+ 0	2.0000- 1	2.0000- 3	4.0000- 4
59 579	3.5000+ 0	4.0000- 1	1.7000- 3	6.0020- 4
69 3017	1.4100+ 1	1.3500+ 0	7.8000- 4	1.6000- 4
57 521	1.4500+ 1		7.6000- 4	7.6000- 5

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

3-78

26-FE-NAT -2

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

BARNs

03/01/74

TOTAL CROSS SECTION

26-FE-NAT

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

BARNs

3-83

MEV

26-FE-NAT -7

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

3-84

26-FE-NAT -8

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

3-85

MEV

26-FE-NAT -9

BARN

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

3-87

26-FE-NAT -11

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

3-88

26-FE-NAT -12

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

ECSIL-622 (60)

ECSIL-133 (55)

ECSIL-349 (58)

BARNs

3-89

MEV

26-FE-NAT -13

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

BARN

3-90

MEV

26-FE-NAT -14

03/01/74

TOTAL CROSS SECTION

26-FE-NAT

TOTAL
CROSS SECTION

TEMP= 3.0000+ 2 KELVIN

TEMP= 1.1000+ 3 KELVIN

ECSIL-1838 (53)

MEV

BARNS

$\times 10^1$

03/01/74

ELASTIC
CROSS SECTION

26-FE-NAT

BARNs

03/01/74

ELASTIC
CROSS SECTION

26-FE-NAT

03/01/74

N, GAMMA
CROSS SECTION

26-FE-NAT

03/01/74

N, GAMMA
CROSS SECTION

26-FE-NAT

03/01/74

N, GAMMA
CROSS SECTION

26-FE-NAT

03/01/74

TOTAL
CROSS SECTION

26-FE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		1.1690+ 1	5.0000- 2	52 207	1.4000+ 1		2.4000+ 0	2.0000- 1
73 3343	2.4300- 2	1.0000- 4	4.2000- 1	3.0000- 2	52 81	1.4000+ 1		2.6000+ 0	5.000 - 2
56 146	1.5800+ 0	4.0000- 2	2.8300+ 0	5.0000- 2	70 3300	1.4500+ 1		2.5100+ 0	2.0000- 2
56 146	1.6600+ 0	4.0000- 2	2.7300+ 0	5.0000- 2	69 2988	1.4800+ 1		2.4800+ 0	1.2400- 1
65 1016	2.0100+ 0	4.0000- 2	3.2000+ 0	6.0000- 2	57 368	1.4800+ 1		2.5100+ 0	6.0020- 2
58 497	2.2000+ 0	2.0000- 2	3.0500+ 0	2.0000- 1	53 274	1.9000+ 1	3.3000- 1	2.2300+ 0	6.7020- 2
65 1016	3.0100+ 0	3.0000- 2	3.2700+ 0	7.0000- 2	61 233	2.8400+ 1		2.3900+ 0	9.0020- 2
59 559	3.6600+ 0	2.0000- 1	3.4100+ 0	1.4000- 1	50 281	4.2000+ 1	1.0000+ 0	2.4410+ 0	2.1000- 2
65 1016	3.9900+ 0	3.0000- 2	3.5100+ 0	7.0000- 2	69 3160	5.7000+ 3	6.0000+ 2	1.2500+ 0	2.0000- 2
55 296	4.1000+ 0	4.0000- 2	3.5000+ 0	2.0000- 1	68 2350	2.7000+ 4		1.0230+ 0	2.5000- 2
68 2025	8.9400+ 0	5.0000- 1	3.5100+ 0	8.0000- 2					

03/01/74

ELASTIC

26-FE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	
51	2794	7.2400- 8	1.2600+ 1	5.0000- 1	56	146	1.6600+ 0	7.5020- 2	1.7900+ 0	2.0000- 1
60	596	2.2000- 1	3.4900+ 0		65	1509	2.0000+ 0	5.0000- 2	2.3000+ 0	
63	1699	3.0000- 1	2.5000- 2	2.6600+ 0	58	497	2.2000+ 0	2.0000- 2	1.9400+ 0	
64	870	5.0000- 1	5.0000- 2	3.1700+ 0	57	416	2.9000+ 0	1.0000- 1	2.5000+ 0	1.0000- 1
64	870	8.0000- 1	5.0000- 2	3.1700+ 0	59	559	3.6600+ 0	2.0000- 1	1.9000+ 0	1.0000- 1
54	103	1.0000+ 0	8.0000- 2	2.1000+ 0	65	889	6.0400+ 0	2.3000- 1	1.7000+ 0	2.5000- 1
56	146	1.4800+ 0	7.5020- 2	1.7900+ 0	58	403	1.4500+ 1		1.1400+ 0	6.0020- 2
56	146	1.5800+ 0	7.5020- 2	1.8500+ 0						

03/01/74

N, GAMMA

26-FE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs		
63	1	3.0000- 2	8.0020- 3	1.2000- 2	4.0000- 3	67	1807	1.2500- 1	2.3000- 2	7.2000- 3	1.5000- 3
61	677	3.0000- 2	7.0020- 3	1.2000- 2	3.0000- 3	67	1807	1.5000- 1	2.1000- 2	1.2400- 2	3.0000- 3
61	677	6.5000- 2	2.0000- 2	6.3020- 3	2.0000- 3	67	1807	1.8200- 1	2.1000- 2	6.5000- 3	2.6000- 3
63	1	6.5000- 2	2.1000- 2	6.3020- 3	3.0000- 3	69	3017	1.4100+ 1	1.3500+ 0	8.7000- 4	1.7000- 4

03/01/74

NEUTRONS/NONELASTIC
EVENT

26-FE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 877	1.4000+ 1		1.2000+ 0	1.5000- 1

03/01/74

TOTAL
CROSS SECTION

26-FE-54

03/01/74

TOTAL

26-FE-54

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
71	3214	4.0400+ 0	9.0000- 2	3.5640+ 0
71	3214	5.0600+ 0	7.0000- 2	3.5970+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
71	3214	5.6000+ 0	9.0000- 2	3.5320+ 0
				3.2000- 2

03/01/74

ELASTIC
CROSS SECTION

26-FE-54

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3214	4.0400+ 0	9.0000- 2	2.4960+ 0	6.5000- 2
71 3214	5.0600+ 0	7.0000- 2	2.2220+ 0	6.5000- 2
71 3214	5.6000+ 0	9.0000- 2	2.0910+ 0	5.5000- 2

03/01/74

TOTAL
CROSS SECTION

26-FE-56

03/01/74

ELASTIC
CROSS SECTION

26-FE-56

3-102

26-FE-56 -1

03/01/74

TOTAL
CROSS SECTION

26-FE-56

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 9:9	1.4400- 6		1.2700+ 1	2.0000- 1
71 3214	5.0500+ 0	9.0000- 2	3.6070+ 0	3.2000- 2

03/01/74

ELASTIC

26-FE-56

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3214	5.0500+ 0	9.0000- 2	2.1290+ 0	5.5000- 2
71 3214	5.5800+ 0	9.0000- 2	1.9160+ 0	5.0000- 2

03/01/74

N, GAMMA

26-FE-56

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
56	9 4.0000- 1		1.0000- 3	6.0010- 4

03/01/74

TOTAL
CROSS SECTION

26-FE-57

03/01/74

N, GAMMA
CROSS SECTION

26-FE-57

3-104

26-FE-57 -1

03/01/74

TOTAL
CROSS SECTION

26-FE-57

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
52 221	2.8000- 3		6.7010+ 0	3.0000+ 0

03/01/74

N. GAMMA
CROSS SECTION

26-FE-58

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		3.6000- 1	7.2000- 2

03/01/74

TOTAL
CROSS SECTION

FE203

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 949	1.4400- 6		3.6500+ 1	3.0000- 1

03/01/74

TOTAL
CROSS SECTION

27-CO-59

3-108

27-CO-59 -1

03/01/74

TOTAL
CROSS SECTION

27-CO-59

03/01/74

27-CO-59

TOTAL
CROSS SECTION

03/01/74

TOTAL
CROSS SECTION

27-CO-59

03/01/74

TOTAL
CROSS SECTION

27-CO-59

BARNs

03/01/74

TOTAL
CROSS SECTION

27-CO-59

07/01/74

TOTAL
CROSS SECTION

27-CO-59

BARNs

03/01/74

TOTAL
CROSS SECTION

27-CO-59

03/01/74

ELASTIC CROSS SECTION

27-CO-59

BARNs

MEV

3-116

27-CO-59 -9

03/01/74

N, GAMMA
CROSS SECTION

27-CO-59

03/01/74

TOTAL

27-CO-59

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	9.3010+ 0		67 1643	4.0000+ 0	5.0000- 2	3.6400+ 0	1.2000- 1
49 844	3.0000- 4	3.0000- 5	7.2310+ 0		59 567	1.4000+ 1		2.7200+ 0	5.0000- 2
67 1527	2.7000+ 0	3.0000- 2	3.0500+ 0	1.5000- 1	52 81	1.4000+ 1		2.7200+ 0	5.0000- 2
59 559	3.6600+ 0	2.0000- 1	3.5900+ 0	1.5000- 1					

03/01/74

ELASTIC

27-CO-59

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 2339	5.0000- 1	5.0000- 2	4.7700+ 0	2.4000- 1	59 559	3.6600+ 0	2.0000- 1	1.9700+ 0	1.0000- 1
66 2339	8.0000- 1	5.0000- 2	3.7300+ 0	2.6000- 1	64 1643	4.0000+ 0	5.0000- 2	2.2000+ 0	1.5000- 1
54 103	1.0000+ 0	8.0000- 2	3.3000+ 0	4.9500- 1	59 567	1.4000+ 1		1.2900+ 0	7.0000- 2

03/0 /74

N, GAMMA
CROSS SECTION

27-CO-59

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
1 65 2575	2.5300- 8		3.8000+ 1	
60 2565	2.5300- 8		3.8000+ 1	5.0000- 1
47 888	2.5300- 8		2.2360+ 1	4.4720+ 0
53 222	2.5000- 2	5.0000- 3	7.7010- 3	2.3000- 3
63 1	3.0000- 2	8.0010- 3	8.8010- 2	3.1000- 2
61 677	3.0000- 2	7.0010- 3	8.8010- 2	3.0000- 2
63 1	6.5000- 2	2.1000- 2	1.8000- 2	1.6000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
51 2568	2.5300- 8		1.5400+ 1	1.0700+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs YEARS
51 2568	2.5300- 8		2.1600+ 1	5.2000+ 0
51 2567	2.5300- 8		3.4200+ 1	1.4000+ 0
68 2479	2.5300- 8		3.7090+ 1	2.7000- 1

03/01/74

TOTAL
CROSS SECTION

28-NI-NAT

MEV

3-119

28-NI-NAT -1

03/01/74

TOTAL
CROSS SECTION

28-NI-NAT

3-120

28-NI-NAT -2

03/01/74

TOTAL
CROSS SECTION

28-NI-NAT

BARN

3-121

MEV

28-NI-NAT -3

C3/01/74

TOTAL
CROSS SECTION

28-NI-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

28-NI-NAT

(EXPANDED BELOW)
ECSIL-2517 (68)

ECSIL-2517 (68)

ECSIL-2517 (68)

3-123

MEV

28-NI-NAT -5

03/01/74

TOTAL
CROSS SECTION

28-NI-NAT

03/01/74

TOTAL
CROSS SECTION

28-NI-NAT

3-125

MEV

28-NI-NAT -7

03/01/74

TOTAL
CROSS SECTION

28-NI-NAT

BARNs

03/01/74

TOTAL CROSS SECTION

28-NI-NAT

FARNS

03/01/74

ELASTIC CROSS SECTION

28-NI-NAT

BARNs

MEV

3-128

28-NI-NAT -10

03/01/74

N, GAMMA

CROSS SECTION

28-NI-NAT

3-129

MEV

28-NI-NAT -11

BARNS

03/01/74

N, GAMMA
CROSS SECTION

23-NI-NAT

BARN'S

3-130

MEV

28-NI-NAT -12

03/01/74

N, GAMMA
CROSS SECTION

28-NI-NAT

03/01/74

TOTAL

28-NI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65	949	1.4400- 6	1.7900+ 1	1.0000- 1	55	559	3.6600+ 0	2.0000- 1	3.3300+ 0
49	844	1.1500- 4	1.1500- 5	1.6600+ 1	52	207	1.4000+ 1		2.5630+ 0
49	844	3.0000- 4	3.0000- 5	1.5600+ 1	52	21	1.4000+ 1		2.6700+ 0
47	46	1.3000- 1	2.0000- 2	6.4010+ 0	50	281	4.2000+ 1	1.0000+ 0	2.5100+ 0
				3.2000- 1					3.4000- 2

03/01/74

ELASTIC

28-NI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1699	3.0000- 1	2.5000- 2	4.6800+ 0	54	193	1.0000+ 0	8.0000- 2	2.8000+ 0
64	886	5.0000- 1	5.0000- 2	3.5700+ 0	65	1509	2.0300+ 0	5.0000- 2	2.5000+ 0
63	1750	6.5000- 1		3.5700+ 0	59	559	3.6600+ 0	2.0000- 1	1.8200+ 0
64	886	8.0000- 1	5.0000- 2	3.1500+ 0	63	947	1.4000+ 1		1.2300+ 0
62	901	9.0000- 1		3.2000+ 0	67	2341	1.4100+ 1	9.0000- 1	1.2000+ 0
				2.4000- 1					1.2000- 1

03/01/74

N, GAMMA
CROSS SECTION

28-NI-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 677	3.0000- 2	7.0010- 3	1.6000- 2	4.0000- 3
63 1	3.0000- 2	8.0010- 3	1.6000- 2	5.0000- 3
61 677	6.5000- 2	2.0000- 2	6.5010- 3	2.0000- 3
63 1	6.5000- 2	2.1000- 2	6.5010- 3	3.0000- 3
67 1807	1.2500- 1	2.3000- 2	1.4100- 2	1.5000- 3
67 1807	1.5000- 1	2.1000- 2	2.9200- 2	3.0000- 3
67 1807	1.8200- 1	2.1000- 2	1.2600- 2	2.6000- 3

03/01/74

TOTAL
CROSS SECTION

28-NI-58

03/01/74

TOTAL

28-NI-58

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
65 949	1.4400- 6		2.4200+ 1	2.0000- 1
67 1527	2.7000+ 0	3.0000- 2	3.0800+ 0	1.0000- 1
71 3214	5.0500+ 0	9.0000- 2	3.5540+ 0	3.6000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
71 3214	5.5800+ 0	9.0000- 2	3.6250+ 0	5.7000- 2
67 1869	1.4200+ 1		2.7010+ 0	8.0000- 3

03/01/74

ELASTIC
CROSS SECTION

28-NI-58

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3214	5.0500+ 0	9.0000- 2	2.0490+ 0	5.0000- 2
71 3214	5.5800+ 0	9.0000- 2	2.0150+ 0	5.0000- 2

03/01/74

TOTAL
CROSS SECTION

28-NI-60

ECSIL-534 (59)

ECSIL-751 (66)

(EXPANDED BELOW)
ECSIL-3158 (71)

MEV

3-135

28-NI-60 -1

BARNs

03/01/74

TOTAL
CROSS SECTION

28-NI-60

03/01/74

TOTAL

28-NI-60

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
71 3214	5.0500+ 0	9.0000- 2	3.7990+ 0	3.5000- 2
71 3214	5.5800+ 0	9.0000- 2	3.6650+ 0	5.0000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		2.7440+ 0	9.0000- 3

03/01/74

ELASTIC
CROSS SECTION

28-NI-60

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNG	DELTA BARNs
71 3214	5.0500+ 0	9.0000- 2	2.1620+ 0	5.5000- 2
71 3214	5.5800+ 0	9.0000- 2	2.0430+ 0	5.5000- 2
70 3172	6.4400+ 0	7.0000- 2	2.0980+ 0	1.5100- 1
70 3172	7.5400+ 0	6.0000- 2	1.9570+ 0	1.4280- 1
70 3172	8.5600+ 0	5.0000- 2	1.9370+ 0	1.4330- 1

03/01/74

TOTAL
CROSS SECTION

28-NI-62

03/01/74

TOTAL
CROSS SECTION

28-NI-62

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1643	4.0000+ 0	5.0000- 2	3.5500+ 0	1.0000- 1
67 1869	1.4200+ 1		2.7960+ 0	1.0000- 2

03/01/74

ELASTIC

28-NI-62

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 1643	4.0000+ 0	5.0000- 2	2.0500+ 0	1.4000- 1

03/01/74

TOTAL
CROSS SECTION

28-NI-64

03/01/74

N, GAMMA
CROSS SECTION

28-NI-64

3-140

28-NI-64 -1

03/01/74

TOTAL
CROSS SECTION

28-NI-64

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		2.8340+ 0	1.0000- 2

03/01/74

N, GAMMA

28-NI-64

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.9600+ 0	3.9200- 1
57 23	2.1000- 2	4.0000- 3	8.5010- 3	2.3000- 3
58 363	2.0000- 1	1.5000- 2	4.3500- 2	4.1000- 3
58 363	4.0000+ 0		2.6000- 3	1.3000- 3

03/01/74

N, GAMMA
CROSS SECTION

28-NI-65

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 977	2.5300- 8		2.0000+ 1	2.0000+ 0

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

(EXPANDED BELOW)
ECSIL-814 (65)

ECSIL-814 (65)

ECSIL-814 (65)

BARNs

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

BARNs

3-148

MEV

29-CU-NAT -6

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

BARNs

3-151

MEV

29-CU-NAT -9

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

3-152

29-CU-NAT -10

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

03/01/74

ELASTIC CROSS SECTION

29-CU-NAT

BARNs

03/01/74

N, GAMMA
CROSS SECTION

29-CU-NAT

03/01/74

TOTAL
CROSS SECTION

29-CU-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65	949 1.4400- 6		8.2100+ 0	3.0000- 2	45	307 2.5400+ 1		2.5000+ 0	2.5000- 1
49	844 1.1500- 4	1.1500- 5	6.6810+ 0		50	281 4.2000+ 1	1.0000+ 0	2.5400+ 0	1.9000- 2
49	844 3.0000- 4	3.0000- 5	6.8810+ 0		54	343 4.7500+ 1	2.0000+ 0	2.8100+ 0	7.0010- 2
47	46 8.3000- 1	4.0000- 2	3.8000+ 0	2.0000- 1	54	343 8.8000+ 1	2.0000+ 0	2.2650+ 0	3.5000- 2
41	170 9.0000- 1		2.7800+ 0	1.5000- 1	49	286 9.0000+ 1		2.2200+ 0	4.0000- 2
55	559 3.6600+ 0	2.0000- 1	3.3800+ 0	1.5000- 1	50	12 9.5000+ 1		2.0000+ 0	2.0000- 2
69	2025 8.9400+ 0	5.0000- 1	3.6700+ 0	8.0000- 2	50	12 9.5000+ 1		2.0000+ 0	3.0000- 2
62	1740 1.4000+ 1		2.9800+ 0	3.0000- 2	55	2056 1.4000+ 3	2.0000+ 2	1.3900+ 0	
52	207 1.4000+ 1		2.5000+ 0	1.0000- 1	70	3195 3.8000+ 3		1.3310+ 0	1.7000- 2
52	81 1.4000+ 1		2.9600+ 0	6.0010- 2	61	1566 5.0000+ 3	4.0000+ 2	1.1580+ 0	3.4000- 2
69	2988 1.4800+ 1		2.8500+ 0	1.4250- 1	69	3160 5.7000+ 3	6.0000+ 2	1.4100+ 0	3.0000- 2
57	368 1.4800+ 1		2.6600+ 0	7.0010- 2	62	1657 8.3000+ 3		1.2170+ 0	4.8000- 2
53	274 1.9000+ 1	3.3000- 1	2.5600+ 0	7.7010- 2	68	2350 2.7000+ 4		1.0900+ 0	3.0000- 2

03/01/74

ELASTIC

29-CU-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64	886 5.0000- 1	5.0000- 2	4.2200+ 0	1.2000- 1	57	416 2.9000+ 0	1.0000- 1	1.8800+ 0	1.0000- 1
64	886 8.0000- 1	5.0000- 2	3.6200+ 0	1.0000- 1	59	559 3.6600+ 0	2.0000- 1	1.8100+ 0	1.0000- 1
54	103 1.0000+ 0	9.0000- 2	2.9000+ 0	4.3500- 1	58	403 1.4500+ 1		1.4500+ 0	7.0010- 2
65	1509 2.0000+ 0	5.0000- 2	2.1000+ 0						

03/01/74

N, GAMMA

29-CU-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60	639 2.4000- 2	2.0000- 3	4.2000- 2	1.5000- 2	63	1 6.5000- 2	2.1000- 2	2.5000- 2	6.0010- 3
61	677 3.0000- 2	7.0010- 3	3.9000- 2	7.0010- 3	58	363 2.0700- 1		5.1000- 2	1.1000- 2
63	1 3.0000- 2	8.0010- 3	3.9000- 2	8.0010- 3	68	2220 1.4100+ 1	1.3500+ 0	6.6000- 4	1.0500- 4
61	677 6.5000- 2	2.0000- 2	2.5000- 2	5.0000- 3					

03/01/74

NEUTRONS/NONELASTIC
EVENT

29-CU-NAT

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 877	1.4000+ 1		1.3400+ 0	1.5000- 1

03/01/74

TOTAL
CROSS SECTION

29-CU-63

03/01/74

N, GAMMA
CROSS SECTION

29-CU-63

03/01/74

N, GAMMA
CROSS SECTION

29-CU-63

03/01/74

N, GAMMA

29-CU-63

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		2.8200+ 0	5.6400- 1
58 357	2.1000- 2		1.0500- 1	9.4010- 3
57 23	2.1000- 2	4.0000- 3	1.1100- 1	2.4000- 2
68 2856	2.4000- 2		1.1000- 1	1.0000- 2
57 305	2.4000- 2	5.0000- 3	1.1600- 1	1.2000- 2
59 526	1.9500- 1	1.5000- 2	4.2000- 2	6.0010- 3
68 2345	3.0000+ 0	2.0000- 1	6.7000- 3	1.4000- 3
57 521	1.4500+ 1		2.5600- 3	3.8400- 4

03/01/74

TOTAL
CROSS SECTION

29-CU-65

03/01/74

N, GAMMA
CROSS SECTION

29-CU-65

3-162

29-CU-65 -1

03/01/74

29-CU-65

N, GAMMA
CROSS SECTION

BARNs

03/01/74

N, GAMMA
CROSS SECTION

29-CU-65

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.8200+ 0	3.6400- 1
57 23	2.1000- 2	4.0000- 3	4.7000- 2	1.2000- 2
58 357	2.1000- 2		4.4000- 2	1.0000- 2
58 43	2.1000- 2	4.0000- 3	3.7500- 2	3.0000- 4
58 825	2.1400- 2		3.8600- 2	3.0000- 4
66 1788	2.4000- 2		2.0000- 2	5.0000- 3
57 305	2.4000- 2	5.0000- 3	4.6000- 2	5.0000- 3
59 526	1.9500- 1	1.5000- 2	1.4000- 2	3.0000- 3
58 363	2.0000- 1	1.5000- 2	1.3900- 2	1.5000- 3
58 1044	2.5000+ 0		4.2000- 3	3.2000- 4
58 363	2.7000+ 0		4.7500- 3	5.0000- 5
68 3375	2.9000+ 0	2.0000- 1	6.2000- 3	8.0000- 4
67 1991	3.0000+ 0	2.0000- 1	7.4000- 3	2.0000- 3
58 1044	3.1000+ 0		3.9000- 3	3.1000- 4
58 1044	4.0000+ 0		3.5000- 3	3.0000- 4
58 363	4.0000+ 0		2.7700- 3	3.0000- 5
57 521	1.4500+ 1		6.3000- 3	1.8900- 3

03/01/74

TOTAL
CROSS SECTION

30-ZN-NAT

BARN

4-1

30-ZN-NAT -1

03/01/74

TOTAL
CROSS SECTION

30-ZN-NAT

BARNs

MEV

4-2

30-ZN-NAT -2

03/01/74

TOTAL
CROSS SECTION

30-ZN-NAT

03/01/74

TOTAL
CROSS SECTION

30-ZN-NAT

03/01/74

TOTAL
CROSS SECTION

30-ZN-NAT

4-5

MEV

30-ZN-NAT -5

BARN'S

03/01/74

TOTAL
CROSS SECTION

30-ZN-NAT

03/01/74

TOTAL
CROSS SECTION

30-ZN-NAT

03/01/74

ELASTIC
CROSS SECTION

30-ZN-NAT

4-8

30-ZN-NAT -8

03/01/74

N, GAMMA
CROSS SECTION

30-ZN-NAT

03/01/74

TOTAL

30-ZN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	
49	844	1.1500- 4	1.1500- 5	3.9100+ 0	55	296	4.1000+ 0	4.0000- 2	3.7000+ 0	2.0000- 1
49	844	3.0000- 4	3.0000- 5	3.7400+ 0	52	207	1.4000+ 1		3.0000+ 0	2.0000- 1
47	46	2.2000- 1	2.0000- 2	5.1010+ 0	52	81	1.4000+ 1		3.0600+ 0	6.0010- 2
47	46	6.2000- 1	7.0010- 2	4.7000+ 0	61	233	2.8400+ 1		2.5500+ 0	5.0000- 2
47	46	8.3000- 1	4.0000- 2	4.3000+ 0	50	281	4.2000+ 1	1.0000+ 0	2.6180+ 0	2.7000- 2
59	559	3.6600+ 0	2.0000- 1	3.5900+ 0	49	286	9.0000+ 1		2.2100+ 0	4.0000- 2

03/01/74

ELASTIC

30-ZN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1699	3.0000- 1	2.5000- 2	5.7200+ 0	1.8000- 1	54 103	1.0000+ 0	8.0000- 2	3.3000+ 0	4.9500- 1
64 870	5.0000- 1	5.0000- 2	4.4100+ 0	1.5000- 1	65 1509	2.0000+ 0	5.0000- 2	2.6000+ 0	
63 1750	6.5000- 1		4.4300+ 0	1.3000- 1	59 559	3.6600+ 0	2.0000- 1	1.7500+ 0	1.0000- 1
64 870	8.0000- 1	5.0000- 2	4.0500+ 0	1.2000- 1					

03/01/74

N,GAMMA
CROSS SECTION

30-ZN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 639	2.4000- 2	2.0000- 3	6.4010- 2	2.0000- 2
63 1	3.0000- 2	8.0010- 3	3.1000- 2	7.0010- 3
61 677	3.0000- 2	7.0010- 3	3.1000- 2	6.0010- 3
61 677	6.5000- 2	2.0000- 2	2.0000- 2	5.0000- 3
63 1	6.5000- 2	2.1000- 2	2.0000- 2	6.0010- 3
58 363	2.0000- 1		2.9000- 2	9.0000- 3

03/01/74

TOTAL
CROSS SECTION

30-ZN-64

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		2.9650+ 0	1.0000- 2

03/01/74

N, GAMMA

30-ZN-64

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		5.1000- 1	1.0200- 1

03/01/74

TOTAL
CROSS SECTION

30-ZN-66

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		3.0110+ 0	1.0000- 2

03/01/74

TOTAL
CROSS SECTION

30-ZN-67

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		2.9900+ 0	3.0000- 2

03/01/74

TOTAL
CROSS SECTION

30-ZN-68

03/01/74

TOTAL

30-ZN-68

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		3.0510+ 0	1.0000- 2

03/01/74

N, GAMMA

30-ZN-68

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.4000+ 0	2.8000- 1	58 363	2.0000- 1	1.5000- 2	3.5000- 2	4.5000- 3
58	43 2.1000- 2	4.0000- 3	2.3400- 1	2.8000- 3					

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
66 1788	2.4000- 2		2.2000- 2	3.0000- 3	5.2000+ 1
57 23	2.1000- 2	4.0000- 3	2.5000- 2	1.0000- 2	5.2010+ 1
68 3375	2.9000+ 0	2.0000- 1	2.6000- 3	4.0000- 4	5.5000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
57 23	2.1000- 2	4.0000- 3	5.5010- 3	2.0000- 3	1.3800+ 1
66 1788	2.4000- 2		5.0000- 3	1.0000- 3	1.3800+ 1

03/01/74

TOTAL
CROSS SECTION

30-ZN-70

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		3.1160+ 0	1.8000- 2

03/01/74

TOTAL
CROSS SECTION

31-GA-NAT

03/01/74

TOTAL
CROSS SECTION

31-GA-NAT

03/01/74

N, GAMMA
CROSS SECTION

31-GA-NAT

03/01/74

TOTAL

31-GA-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
53 100	1.0000- 3	1.0000- 3	8.0010+ 0	5.0000- 1	57 22	1.1170+ 1	1.1000- 1	3.6400+ 0	3.0000- 2
53 100	1.0000- 1	1.0000- 3	6.0010+ 0	5.0000- 1	52 81	1.4000+ 1		3.1900+ 0	6.0010- 2
67 1527	2.7000+ 0	3.0000- 2	3.0000+ 0	1.0000- 1	57 22	1.4500+ 1	7.0010- 2	3.1800+ 0	3.0000- 2
57 22	8.6800+ 0	1.5000- 1	3.8900+ 0	4.0000- 2					

03/01/74

N, GAMMA
CROSS SECTION

31-GA-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1 3.0000- 2	0.0010- 3	1.0300- 1	9.3010- 3
63	1 6.5000- 2	2.1000- 2	5.6010- 2	5.0000- 3

03/01/74

N, GAMMA
CROSS SECTION

31-GA-69

03/01/74

N, GAMMA
CROSS SECTION

31-GA-69

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.4000+ 0	2.8000- 1
58 43	2.1000- 2	4.0000- 3	1.4700- 1	1.2000- 3
66 1788	2.4000- 2		5.0000- 2	5.0000- 3
58 1044	2.5000+ 0		1.3000- 2	1.5000- 3
67 1991	3.0000+ 0	2.0000- 1	1.6900- 2	3.0000- 3
58 1044	3.1000+ 0		1.2300- 2	1.8000- 3
58 1044	4.0000+ 0		1.2000- 2	1.3000- 3

03/01/74

N, GAMMA
CROSS SECTION

31-GA-71

03/01/74

N, GAMMA
CROSS SECTION

31-GA-71

03/01/74

N, GAMMA

31-GA-71

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
57 305	2.4000- 2	5.0000- 3	6.8010- 2	1.3000- 2
59 526	2.5000- 2	5.0000- 3	1.4000- 1	3.0000- 2
59 526	1.9500- 1	1.5000- 2	5.3010- 2	3.0000- 3
67 1991	3.0000+ 0	2.0000- 1	4.3000- 3	1.0000- 3
57 521	1.4500+ 1		1.9000- 3	1.9000- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	HALF-LIFE HOURS
47 888	2.5300- 8		3.3600+ 0	6.7200- 1	1.4100+ 1
66 1788	2.4000- 2		7.5000- 2	1.0000- 2	1.4200+ 1

03/01/74

TOTAL CROSS SECTION

32-GE-NAT

ECSIL-2331 (53)

ECSIL-50 (56)

MEV

4-24

32-GE-NAT -1

BARNs

03/01/74

TOTAL
CROSS SECTION

32-GE-NAT

03/01/74

TOTAL
CROSS SECTION

32-GE-NAT

BARNs

03/01/74

ELASTIC
CROSS SECTION

32-GE-NAT

03/01/74

TOTAL

32-GE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 637	3.6600+ 0	2.0000- 1	3.6700+ 0	1.8000- 1
70 3300	1.4500+ 1		1.8750+ 0	1.2000- 2

03/01/74

ELASTIC

32-GE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 637	3.6600+ 0	2.0000- 1	1.7000+ 0	1.3000- 1
69 2650	7.5500+ 0	1.3000- 1	2.5000+ 0	2.0000- 1

03/01/74

N, GAMMA

32-GE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0010- 3	7.4010- 2	6.7010- 3
61 677	6.5000- 2	2.0000- 2	3.9100- 2	6.0010- 3
63 1	6.5000- 2	2.1000- 2	3.9000- 2	7.0010- 3

03/01/74

N, GAMMA
CROSS SECTION

32-GE-74

03/01/74

N, GAMMA

32-GE-74

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
59 526	1.9500- 1	1.5000- 2	1.9000- 2	2.0000- 3
67 1991	3.0000+ 0	2.0000- 1	6.6000- 3	1.3000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE SECONDS
68 2345	3.0000+ 0	2.0000- 1	8.1000- 4	1.4000- 4	4.9000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
66 1788	2.4000- 2		2.0000- 2	5.0000- 3	7.9000+ 1
58 1044	2.5000+ 0		1.0000- 2	7.0000- 4	8.2000+ 1
68 2345	3.0000+ 0	2.0000- 1	6.8000- 3	5.0000- 4	4.2000+ 1
58 1044	3.1000+ 0		7.5000- 3	6.0000- 4	8.2000+ 1
58 1044	4.0000+ 0		6.0000- 3	5.0000- 4	8.2000+ 1
57 305	2.4000- 2	5.0000- 3	5.4010- 2	8.0010- 3	8.2010+ 1
47 888	2.5300- 8		3.8000- 1	7.6000- 2	8.9000+ 1

03/01/74

N, GAMMA CROSS SECTION

32-GE-76

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs SECONDS
66 1788	2.4000- 2		6.5000- 2	2.0000- 2
68 2392	2.4000- 2		4.5000- 2	1.2000- 2 5.9000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs HOURS
47 2699	2.5300- 8		1.0000- 1	1.1000+ 1
68 2392	2.4000- 2		1.0000- 2	3.0000- 3 1.1300+ 1
66 1788	2.4000- 2		8.0000- 3	1.5000- 3 1.1300+ 1
47 888	2.5300- 8		8.5000- 2	1.7000- 2 1.2000+ 1

03/01/74

TOTAL
CROSS SECTION

33-AS-75

03/01/74

TOTAL
CROSS SECTION

33-AS-75

03/01/74

TOTAL CROSS SECTION

33-AS-75

MEV

BARNs

03/01/74

TOTAL
CROSS SECTION

33-AS-75

03/01/74

N, GAMMA
CROSS SECTION

33-AS-75

03/01/74

TOTAL

33-AS-75

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
60 1716	2.5300- 8		9.8300+ 0	1.1400+ 0
49 844	1.1500- 4	1.1500- 5	6.2210+ 0	
49 844	3.0000- 4	3.0000- 5	7.2010+ 0	

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
52 332	1.4000+ 1		3.7600+ 0	8.0010- 2
61 233	2.8400+ 1		2.6200+ 0	1.1000- 1

03/01/74

N, GAMMA
CROSS SECTION

33-AS-75

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		4.2000+ 0	8.4000- 1
68 2856	2.4000- 2		3.1000- 1	2.0000- 2
57 305	2.4000- 2	5.0000- 3	7.4010- 1	7.0010- 2
63 1	3.0000- 2	8.0010- 3	3.5000- 1	3.2000- 2
63 1	6.5000- 2	2.1000- 2	1.7500- 1	1.6000- 2
59 526	1.9500- 1	1.5000- 2	1.5000- 1	1.5000- 2
68 3375	2.9000+ 0	2.0000- 1	1.4000- 2	1.4000- 3
68 2345	3.0000+ 0	2.0000- 1	1.2880- 2	1.6000- 3
67 1991	3.0000+ 0	2.0000- 1	1.1500- 2	1.0000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
57 23	2.1000- 2	4.0000- 3	6.3010- 1	1.6000- 1	2.6700+ 1

03/01/74

TOTAL
CROSS SECTION

34-SE-NAT

03/01/74

TOTAL CROSS SECTION

34-SE-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

34-SE-NAT

4-38

34-SE-NAT -3

03/01/74

TOTAL
CROSS SECTION

34-SE-NAT

03/01/74

ELASTIC
CROSS SECTION

34-SE-NAT

4-39

34-SE-NAT -4

03/01/74

TOTAL
CROSS SECTION

34-SE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	8.1110+ 0	
49 844	3.0000- 4	3.0000- 5	1.1300+ 1	
62 637	3.6600+ 0	2.0000- 1	4.2100+ 0	2.1000- 1
52 81	1.4000+ 1		3.5600+ 0	7.0010- 2

03/01/74

ELASTIC

34-SE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 886	5.0000- 1	5.0000- 2	5.8900+ 0	2.0000- 1
64 886	8.0000- 1	5.0000- 2	4.7200+ 0	2.0000- 1
54 103	1.0000+ 0	8.0000- 2	4.3000+ 0	6.4500- 1
62 637	3.6600+ 0	2.0000- 1	1.8600+ 0	1.2000- 1

03/01/74

N, GAMMA

34-SE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0010- 3	9.4010- 2	8.5010- 3
63 1	6.5000- 2	2.1000- 2	5.1010- 2	4.6000- 3
58 363	2.0000- 1		8.3000- 2	1.7000- 2

03/01/74

N, GAMMA
CROSS SECTION

34-SE-74

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		2.2000+ 1	4.4000+ 0

03/01/74

N, GAMMA CROSS SECTION

34-SE-80

03/01/74

N, GAMMA
CROSS SECTION

34-SE-80

03/01/74

TOTAL

34-SE-80

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1643	4.0000+ 0	5.0000- 2	4.2000+ 0	1.8000- 1

03/01/74

ELASTIC

34-SE-80

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 1643	4.0000+ 0	5.0000- 2	2.1500+ 0	1.5000- 1

03/01/74

N, GAMMA

34-SE-80

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
66 1788	2.4000- 2		6.0000- 3	1.0000- 3	1.8000+ 1
68 2345	3.0000+ 0	2.0000- 1	2.1100- 3	2.0000- 4	1.8000+ 1
66 1788	2.4000- 2		7.0000- 3	1.5000- 3	5.7000+ 1
68 2345	3.0000+ 0	2.0000- 1	2.3600- 3	2.5000- 4	5.7000+ 1

03/01/74

N, GAMMA
CROSS SECTION

34-SE-82

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 521	1.4500+ 1		6.5000- 4	1.9500- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE SECONDS
56 1788	2.4000- 2		4.5000- 2	1.5000- 2	7.0000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
47 888	2.5300- 8		6.0000- 2	1.2000- 2	3.0000+ 1

03/01/74

35-BR-NAT

TOTAL
CROSS SECTION

4-45

MEV

35-BR-NAT -1

03/01/74

TOTAL CROSS SECTION

35-BR-NAT

BARN

03/01/74

TOTAL
CROSS SECTION

35-BR-NAT

03/01/74

TOTAL
CROSS SECTION

35-BR-NAT

03/01/74

N, GAMMA
CROSS SECTION

35-BR-NAT

03/01/74

TOTAL

35-BR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844	1.1500- 4	1.1500- 5	9.6610+ 0	53	274	1.9000+ 1	3.3000- 1	2.9800+ 0
49	844	3.0000- 4	3.0000- 5	8.9410+ 0	53	274	2.0070+ 1	2.6000- 1	2.9600+ 0
61	637	3.6600+ 0	2.0000- 1	4.0800+ 0	2.0000- 1	61	233	2.8400+ 1	2.7500+ 0
52	81	1.4000+ 1	3.5200+ 0	7.0010- 2	50	281	4.2000+ 1	1.0000+ 0	2.9300+ 0
53	274	1.7200+ 1	5.5010- 1	3.1200+ 0	9.4010- 2				

03/01/74

ELASTIC

35-BR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65	1509	2.0000+ 0	5.0000- 2	2.1000+ 0

03/01/74

N, GAMMA
CROSS SECTION

35-BR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 677	3.0000- 2	7.0010- 3	6.5010- 1	6.5010- 2
63 1	3.0000- 2	8.0010- 3	6.5010- 1	5.9010- 2
61 677	6.5000- 2	2.0000- 2	3.4500- 1	3.4000- 2
63 1	6.5000- 2	2.1000- 2	3.4500- 1	3.1000- 2
58 363	2.0000- 1		3.8000- 1	5.5000- 2

03/01/74

N, GAMMA
CROSS SECTION

35-BR-79

03/01/74

N, GAMMA
CROSS SECTION

35-BR-79

03/01/74

N, GAMMA

35-BR-79

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		8.9600+ 0	1.7920+ 0
58 43	2.1000- 2	4.0000- 3	6.9110- 2	3.3000- 2
58 363	2.0000- 1	1.5000- 2	3.2800- 1	8.0000- 3
58 363	2.7000+ 0		2.6400- 2	5.0000- 4
58 363	4.0000+ 0		1.1700- 2	3.0000- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
66 1788	2.4000- 2		5.4500- 1	4.5000- 2	1.8000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
66 1788	2.4000- 2		8.0000- 2	1.0000- 2	4.5000+ 0

03/01/74

N, GAMMA
CROSS SECTION

35-BR-81

03/01/74

N, GAMMA

35-BR-81

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
47 888	2.5300- 8		2.2500+ 0	4.5000- 1
57 305	2.4000- 2	5.0000- 3	5.5010- 1	5.5010- 2
59 663	1.8000- 1	2.0000- 2	1.1000- 1	
59 526	1.9500- 1	1.5000- 2	1.3700- 1	1.5000- 2
59 663	2.0000+ 0	1.0000- 1	1.0000- 2	
59 663	2.5000+ 0	1.0000- 1	4.8000- 3	
57 521	1.4500+ 1		3.5000- 3	8.7500- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	HALF-LIFE MINUTES
68 2345	3.0000+ 0	2.0000- 1	1.4190- 2	5.0000- 4	6.1000+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	HALF-LIFE HOURS
66 1788	2.4000- 2		5.6000- 1	7.5000- 2	3.6000+ 1

03/01/74

TOTAL
CROSS SECTION

36-KR-NAT

EC5IL-2349 (57)

EC5IL-2998 (69)

4-54

36-KR-NAT -1

03/01/74

TOTAL
CROSS SECTION

36-KR-NAT

03/01/74

N, GAMMA
CROSS SECTION

36-KR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
69 2998	2.5300- 8		2.6200+ 1	4.0000- 1
63 1	3.0000- 2	8.0010- 3	1.8000- 1	1.6000- 2
63 1	6.5000- 2	2.1000- 2	8.9010- 2	8.0010- 3

03/01/74

N, GAMMA
CROSS SECTION

36-KR-86

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 165	1.0000+ 0		2.4000- 3	

03/01/74

TOTAL
CROSS SECTION

37-RB-NAT

03/01/74

TOTAL
CROSS SECTION

37-RB-NAT

03/01/74

N, GAMMA
CROSS SECTION

37-RB-NAT

03/01/74

TOTAL

37-RB-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 2074	1.4690+ 1		3.9000+ 0	1.0000- 1
66 2074	1.4960+ 1		3.9000+ 0	1.0000- 1

03/01/74

N, GAMMA

37-RB-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0010- 3	1.5500- 1	1.4000- 2
60 674	4.0000- 2	9.0010- 2	5.2010- 2	7.0010- 3
63 1	6.5000- 2	2.1000- 2	2.4000- 2	2.2000- 3

03/01/74

TOTAL
CROSS SECTION

37-RB-85

03/01/74

N, GAMMA
CROSS SECTION

37-RB-85

4-61

37-RB-85 -1

03/01/74

N, GAMMA
CROSS SECTION

37-RB-85

03/01/74

N, GAMMA

37-RB-85

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
67 2602	2.8000+ 0	7.0000- 2	4.0000- 3	5.2000- 4	1.0000+ 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
57 305	2.4000- 2	5.0000- 3	1.8100- 1	3.5000- 2	1.8700+ 1
47 888	2.5300- 8		7.2000- 1	1.4400- 1	1.9500+ 1

03/01/74

TOTAL
CROSS SECTION

37-RB-87

03/01/74

N, GAMMA
CROSS SECTION

37-RB-87

03/01/74

N, GAMMA

37-RB-87

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	888	2.5300- 8	1.2200- 1	2.4400- 2	49	165	1.0000+ 0	1.8000- 3	
58	43	2.1000- 2	4.0000- 3	2.8200- 1	58	1044	2.5000+ 0	1.5000- 3	4.0000- 4
68	2856	2.4000- 2	2.5000- 2	5.0000- 3	58	1044	3.1000+ 0	1.4000- 3	3.0000- 4
51	305	2.4000- 2	5.0000- 3	7.5010- 2	58	1044	4.0000+ 0	1.1000- 3	2.0000- 4

03/01/74

TOTAL
CROSS SECTION

38-SR-NAT

03/01/74

TOTAL
CROSS SECTION

38-SR-NAT

03/01/74

ELASTIC
CROSS SECTION

38-SR-NAT

4-66

38-SR-NAT -2

03/01/74

TOTAL
CROSS SECTION

38-SR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61 637	3.6600+ 0	2.0000- 1	4.4200+ 0	2.1000- 1
52 81	1.4000+ 1		3.6800+ 0	7.0010- 2
58 975	1.6200+ 1		3.5100+ 0	4.9000- 1
55 133	1.6200+ 1		3.5100+ 0	4.9000- 1
50 281	4.2000+ 1	1.0000+ 0	2.9900+ 0	1.2000- 1

03/01/74

ELASTIC

38-SR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54 103	1.0000+ 0	8.0000- 2	6.0000+ 0	9.0000- 1
65 1509	2.0000+ 0	5.0000- 2	4.7000+ 0	
61 637	3.6600+ 0	2.0000- 1	2.7400+ 0	2.3000- 1

03/01/74

N, GAMMA

38-SR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 633	2.5000- 2	1.0000- 3	9.9010- 2	9.0010- 3
61 677	3.0000- 2	7.0010- 3	1.5500- 1	1.5000- 2
63 1	3.0000- 2	8.0010- 3	1.5500- 1	1.4000- 2
61 677	6.5000- 2	2.0000- 2	2.4000- 2	2.0000- 3
63 1	6.5000- 2	2.1000- 2	2.4000- 2	2.2000- 3
60 633	2.2000- 1	2.0000- 2	1.2400- 1	3.0000- 2
60 633	8.3000- 1	4.0000- 2	1.0500- 1	2.0000- 2

03/01/74

N, GAMMA
CROSS SECTION

38-SR-86

03/01/74

N, GAMMA

38-SR-86

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2632	2.5300- 8		7.6900- 1	4.8000- 2
67 1807	3.0000- 2	1.0000- 2	7.4000- 2	6.8000- 3
67 1807	6.5000- 2	2.0000- 2	3.5100- 2	3.3000- 3
67 1807	1.2500- 1	2.3000- 2	2.8900- 2	2.4000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
47 88B	2.5300- 8		1.2900+ 0	2.5800- 1	2.7000+ 0

03/01/74

N. GAMMA
CROSS SECTION

38-SR-87

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1807 3.0000- 2	1.0000- 2	1.0870- 1	8.9000- 3	
67 1807 6.5000- 2	2.0000- 2	5.6000- 2	4.5000- 3	
67 1807 1.2500- 1	2.3000- 2	3.7600- 2	2.9000- 3	

03/01/74

TOTAL
CROSS SECTION

38-SR-88

03/01/74

N, GAMMA

38-SR-88

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		5.0000- 3	1.0000- 3
49 165	1.0000+ 0		1.4000- 3	

03/01/74

39-Y -89

TOTAL
CROSS SECTION

4-71

MEV

39-Y -89 -1

03/01/74

39-Y -89

TOTAL
CROSS SECTION

4-72

MEV

39-Y -89 -2

03/01/74

39-Y -89

TOTAL
CROSS SECTION

03/01/74

TOTAL
CROSS SECTION

39-Y -89

4-74

39-Y -89 -4

03/01/74

TOTAL
CROSS SECTION

39-Y -89

03/01/74

ELASTIC
CROSS SECTION

39-Y -89

03/01/74

N, GAMMA
CROSS SECTION

39-Y -89

BARNs

4-76

39-Y -89 -6

03/01/74

N. GAMMA
CROSS SECTION

39-Y -89

4-77

39-Y -89 -7

03/01/74

N, GAMMA
CROSS SECTION

39-Y -89

03/01/74

TOTAL
CROSS SECTION

39-Y -89

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 497	2.2000+ 0	2.0000- 2	4.4000+ 0	2.0000- 1
61 637	3.6600+ 0	2.0000- 1	4.0100+ 0	2.0000- 1
52 81	1.4000+ 1		3.8800+ 0	1.4000- 1

03/01/74

ELASTIC

39-Y -89

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 497	2.2000+ 0	2.0000- 2	3.6500+ 0	
65 1809	3.7700+ 1	7.0000- 2	2.1000+ 0	8.0000- 2
65 889	6.0400+ 0	2.3000- 1	2.3000+ 0	4.0000- 1

03/01/74

N,GAMMA

39-Y -89

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 2118	2.5300- 8		1.2800+ 0	1.0000- 2
68 2856	2.4000- 2		2.5000- 2	5.0000- 3
61 677	3.0000- 2	7.0010- 3	1.3500- 2	3.0000- 3
63 1	3.0000- 2	8.0010- 3	1.3500- 2	4.0000- 3
61 677	6.5000- 2	2.0000- 2	6.9010- 3	2.0000- 3
63 1	6.5000- 2	2.1000- 2	6.9010- 3	3.0000- 3
60 674	4.0000- 1	9.0010- 2	7.0010- 3	3.0000- 3
49 165	1.0000+ 0		7.0010- 3	
67 1991	3.0000+ 0	2.0000- 1	3.6000- 3	4.0000- 4
57 521	1.4500+ 1		2.9000- 3	2.9000- 4
67 1695	1.4700+ 1		1.4000- 3	3.0000- 4
63 756	1.4800+ 1	2.0000- 1	1.1000- 3	6.0010- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs HOURS
47 888	2.5300- 8		1.2400+ 0	2.4800- 1 6.0000+ 1
57 23	2.1000- 2	4.0000- 3	2.7000- 2	7.0010- 3 6.4010+ 1

03/01/74

TOTAL
CROSS SECTION

40-ZR-NAT

MEV

5-1

40-ZR-NAT -1

BARN

03/01/74

TOTAL
CROSS SECTION

40-ZR-NAT

03/01/74

TOTAL
CROSS SECTION

40-ZR-NAT

03/01/74

40-ZR-NAT

TOTAL
CROSS SECTION

5-4

MEV

40-ZR-NAT -4

03/01/74

TOTAL
CROSS SECTION

40-ZR-NAT

03/01/74

TOTAL
CROSS SECTION

40-ZR-NAT

03/01/74

TOTAL
CROSS SECTION

40-ZR-NAT

BARNs

03/01/74

40-ZR-NAT

TOTAL
CROSS SECTION

BARNs

03/01/74

ELASTIC
CROSS SECTION

40-ZR-NAT

03/01/74

N, GAMMA
CROSS SECTION

40-ZR-NAT

03/01/74

TOTAL
CROSS SECTION

40-ZR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 637	3.6600+ 0	2.0000- 1	3.9300+ 0	2.0000- 1
57 320	3.6600+ 0	2.0000- 1	4.1000+ 0	1.0000- 1
55 296	4.1000+ 0	4.0000- 2	4.1000+ 0	2.0000- 1
52 207	1.4000+ 1		3.6000+ 0	2.0000- 1
52 81	1.4000+ 1		4.0000+ 0	8.0010- 2
58 975	1.6200+ 1		3.5500+ 0	1.5000- 1
55 133	1.6200+ 1		3.5500+ 0	1.5000- 1
53 274	1.9000+ 1	3.3000- 1	3.6000+ 0	1.1000- 1

03/01/74

ELASTIC

40-ZR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2338	3.0000- 1	2.5000- 2	8.4900+ 0	5.1000- 1
64 2338	5.0000- 1	5.0000- 2	8.7000+ 0	3.5000- 1
63 1750	6.5000- 1		8.2700+ 0	2.8000- 1
64 870	8.0000- 1	5.0000- 2	7.0000+ 0	1.6000- 1
54 103	1.0000+ 0	8.0000- 2	6.6000+ 0	9.9000- 1
62 637	3.6600+ 0	2.0000- 1	2.2200+ 0	1.1000- 1

03/01/74

N, GAMMA

40-ZR-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2855	2.5300- 8		2.0000- 1	4.0000- 2
63 1	3.0000- 2	8.0010- 3	1.4000- 2	4.0000- 3
61 677	3.0000- 2	7.0010- 3	1.4000- 2	3.0000- 3
63 1	6.5000- 2	2.1000- 2	1.0300- 2	3.0000- 3
61 677	6.5000- 2	2.0000- 2	1.0300- 2	2.0000- 3

03/01/74

TOTAL
CROSS SECTION

40-ZR-90

03/01/74

N, GAMMA
CROSS SECTION

40-ZR-90

03/01/74

N, GAMMA
CROSS SECTION

40-ZR-91

03/01/74

TOTAL
CROSS SECTION

40-ZR-92

03/01/74

TOTAL
CROSS SECTION

40-ZR-94

03/01/74

N, GAMMA
CROSS SECTION

40-ZR-94

5-16

40-ZR-94 -1

03/01/74

N, GAMMA
CROSS SECTION

40-ZR-94

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 305	2.4000- 2	5.0000- 3	2.4300- 1	3.6000- 2
59 526	2.5000- 2	5.0000- 3	2.4000- 2	4.0000- 3
59 526	1.9500- 1	1.5000- 2	4.2000- 2	8.0010- 3

03/01/74

N,GAMMA
CROSS SECTION

40-ZR-96

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 305	2.4000- 2	5.0000- 3	2.2000- 2	4.0000- 3
59 526	1.9500- 1	5.0000- 3	7.0010- 3	2.0000- 3
57 521	1.4500+ 1		4.0000- 3	

03/01/74

TOTAL
CROSS SECTION

ZR02

03/01/74

TOTAL
CROSS SECTION

41-NB-93

03/01/74

TOTAL
CROSS SECTION

41-NB-93

03/01/74

TOTAL
CROSS SECTION

41-NB-93

03/01/74

TOTAL
CROSS SECTION

41-NB-93

03/01/74

TOTAL
CROSS SECTION

41-NB-93

5-24

41-NB-93 -5

03/01/74

TOTAL CROSS SECTION

41-NB-93

03/01/74

TOTAL
CROSS SECTION

41-NB-93

03/01/74

ELASTIC
CROSS SECTION

41-NB-93

5-26

41-NB-93 -7

03/01/74

N, GAMMA CROSS SECTION

41-NB-93

03/01/74

N, GAMMA CROSS SECTION

41-NB-93

BARNs

03/01/74

N, GAMMA
CROSS SECTION

41-NB-93

03/01/74

TOTAL

41-NB-93

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	
61	637	3.6600+ 0	2.0000- 1	3.7500+ 0	2.5000- 1	52	81	1.4000+ 1	4.0200+ 0	8.0010- 2
67	1643	4.0000+ 0	5.0000- 2	4.2300+ 0	1.5000- 1	66	2127	1.4700+ 1	3.0000- 1	3.9400+ 0

03/01/74

ELASTIC

41-NB-93

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54 103	1.0000+ 0	8.0000- 2	5.8000+ 0	8.7000- 1	64 1643	4.0000+ 0	5.0000- 2	2.0500+ 0	1.4000- 1
65 1509	2.0000+ 0	5.0000- 2	3.3000+ 0		66 2127	1.4700+ 1	3.0000- 1	1.7700+ 0	5.3100- 2

03/01/74

N, GAMMA

41-NB-93

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs		
58	43	2.1000- 2	4.0000- 3	1.1600- 1	1.2000- 2	63	1	6.5000- 2	2.1000- 2	1.3500- 1	1.2000- 2
63	1	3.0000- 2	8.0010- 3	2.6400- 1	2.4000- 2						

03/01/74

N, GAMMA
CROSS SECTION

41-NB-93

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
47 888	2.5300- 8		1.0000+ 0	4.0000- 1	6.6000+ 0
63 756	1.4800+ 1		1.8000- 3	6.0000- 4	6.6000+ 0
62 3169	1.4500+ 1	9.0000- 1	4.4000- 4	2.5000- 4	6.6000+ 0

1

03/01/74

TOTAL
CROSS SECTION

42-MO-NAT

03/01/74

TOTAL CROSS SECTION

42-MO-NAT

ECSIL-903 (58)

BARNS

ECSIL-862 (55)

MEV

5-32

42-MO-NAT -2

03/01/74

42-MO-NAT

TOTAL
CROSS SECTION

MEV

5-33

42-MO-NAT -3

BARNs

03/01/74

TOTAL CROSS SECTION

42-MO-NAT

BARNs

5-34

MEV

42-MO-NAT -4

03/01/74

TOTAL
CROSS SECTION

42-MO-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

42-MO-NAT

03/01/74

TOTAL
CROSS SECTION

42-MO-NAT

03/01/74

42-MO-NAT

TOTAL
CROSS SECTION

BARNs

03/01/74

TOTAL
CROSS SECTION

42-MO-NAT

03/01/74

ELASTIC
CROSS SECTION

42-MO-NAT

03/01/74

ELASTIC
CROSS SECTION

42-MO-NAT

03/01/74

N, GAMMA
CROSS SECTION

42-MO-NAT

03/01/74

N, GAMMA
CROSS SECTION

42-MO-NAT

03/01/74

N, GAMMA
CROSS SECTION

42-MO-NAT

03/01/74

TOTAL
CROSS SECTION

42-MO-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61	637	3.6600+ 0	2.0000- 1	4.1100+ 0	2.7000- 1	52	81	1.4000+ 1	4.0400+ 0
60	576	4.1000+ 0	1.0000- 1	3.9000+ 0	1.0000- 1	61	233	2.8400+ 1	2.9300+ 0
52	207	1.4000+ 1		3.6000+ 0	3.0000- 1	50	281	4.2000+ 1	1.0000+ 0
								3.1100+ 0	5.0000- 2

03/01/74

ELASTIC

42-MO-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64	1255	3.0000- 1		8.3000+ 0	3.5000- 1	65	1509	2.0000+ 0	5.0000- 2
64	1255	5.0000- 1		7.8300+ 0	2.3000- 1	57	320	3.6600+ 0	2.0000- 1
64	1255	8.0000- 1		6.9000+ 0	2.8000- 1	60	576	4.1000+ 0	1.0000- 1
54	103	1.0000+ 0	8.0000- 2	5.7000+ 0	8.5500- 1	65	889	6.0400+ 0	2.3000- 1
								1.9000+ 0	3.0000- 1

03/01/74

N, GAMMA

42-MO-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60	633	2.5000- 2	1.0000- 3	2.6200- 1
53	799	3.0000- 2	3.0000- 3	1.4100- 1
61	677	3.0000- 2	7.0010- 3	1.4000- 1
63	1	3.0000- 2	8.0010- 3	1.4000- 1
61	677	6.5000- 2	2.0000- 2	6.9010- 2
63	1	6.5000- 2	2.1000- 2	6.9010- 2
58	363	2.0000- 1		9.7000- 2
60	633	2.2000- 1	2.0000- 2	7.0010- 2
56	9	4.0000- 1	9.0010- 2	4.2800- 2
60	633	6.3000- 1	4.0000- 2	1.1000- 1

03/01/74

NEUTRONS/NONELASTIC EVENT

42-MO-NAT

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58	877	1.4000+ 1		1.6400+ 0
				2.0000- 1

03/01/74

N, GAMMA
CROSS SECTION

42-MO-95

03/01/74

N, GAMMA
CROSS SECTION

42-MO-96

03/01/74

N, GAMMA
CROSS SECTION

42-MO-97

03/01/74

TOTAL
CROSS SECTION

42-MO-98

03/01/74

N, GAMMA
CROSS SECTION

42-MO-98

03/01/74

N, GAMMA
CROSS SECTION

42-MO-98

03/01/74

N, GAMMA

42-MO-98

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
61	2717	2.5000- 8	1.3600- 1	3.0000- 3	68	2856	2.4000- 2	1.1000- 1	1.5000- 2
61	2718	2.5300- 8	1.8000- 1	2.0000- 2	57	305	2.4000- 2	5.0000- 3	2.0900- 1
47	888	2.5300- 8	4.1500- 1	8.3000- 2	62	697	2.5000- 2	5.0000- 3	1.4000- 1
58	357	2.1000- 2	4.1500- 1	9.8010- 2	59	526	1.9500- 1	1.5000- 2	3.0000- 2
57	23	2.1000- 2	4.0000- 3	3.8000- 1	67	1991	3.0000- 0	2.0000- 1	1.0600- 2

03/01/74

N, GAMMA
CROSS SECTION

42-MO-100

03/01/74

N, GAMMA

42-MO-100

CROSS SECTION

BARNs

03/01/74

N, GAMMA

42-MO-100

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	848 2.5300- 8		4.7500- 1 9.5000- 2		58	363 2.0000- 1 1.5000- 2	5.1600- 2 2.1000- 3	
58	357 2.1000- 2		1.4800- 1 3.9000- 2		58	1044 2.5000+ 0	6.3000- 3 1.2000- 3	
58	43 2.1000- 2		1.0900- 1 3.0000- 3		58	363 2.7000+ 0	6.5000- 3 7.0000- 4	
57	305 2.4000- 2		3.8000- 2 6.0010- 3		58	1044 3.1000+ 0	5.6000- 3 1.0000- 3	
62	697 2.5000- 2		3.10900- 1 5.0000- 2		58	1044 4.0000+ 0	4.5000- 3 7.0000- 4	
59	526 1.9500- 1		2.7000- 2 6.0010- 3		58	363 4.0000+ 0	3.9000- 3 4.0000- 4	

5-50

42-MO-100 -2

03/01/74

TOTAL
CROSS SECTION

43-TC-99

03/01/74

TOTAL
CROSS SECTION

43-TC-99

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 2720	2.5300- 8		3.0000+ 1	2.0000+ 0

03/01/74

TOTAL
CROSS SECTION

44-RU-NAT

03/01/74

N, GAMMA
CROSS SECTION

44-RU-NAT

03/01/74

TOTAL

44-RU-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
53	100 1.0000- 2	1.0000- 3	8.0010+ 0	3.0000- 1
53	100 1.0000- 1	1.0000- 2	7.5010+ 0	3.0000- 1

03/01/74

N, GAMMA
CROSS SECTION

44-RU-96

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 305	2.4000- 2	5.0000- 3	3.2100- 1	6.0010- 2
59 526	1.9500- 1	1.5000- 2	1.4000- 1	2.8000- 2

03/01/74

N, GAMMA
CROSS SECTION

44-RU-102

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
57 305	2.4000- 2	5.0000- 3	3.8500- 1	3.9000- 2
59 526	1.9500- 1	1.5000- 2	1.9000- 1	2.5000- 2

03/01/74

N, GAMMA
CROSS SECTION

44-RU-104

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2723	2.5000- 8		4.7000- 1	
57 305	2.4000- 2	5.0000- 3	2.1100- 1	2.1000- 2
59 526	1.9500- 1	1.5000- 2	2.8000- 2	5.0000- 3
67 1991	3.0000+ 0	2.0000- 1	1.9800- 2	4.0000- 3
57 521	1.4500+ 1		1.3600- 2	2.7200- 3
66 2141	1.4700+ 1	5.0000- 1	2.5000- 3	5.0000- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs HOURS
66 1788	2.4000- 2		8.0000- 2	1.0000- 2 4.5000+ 0

03/01/74

N, GAMMA
CROSS SECTION

44-RU-106

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 2727	2.5000- 8		1.4600- 1	4.5000- 2

03/01/74

45-RH-103

TOTAL CROSS SECTION

BARNS

03/01/74

45-RH-103

TOTAL CROSS SECTION

BARNs

MEV

5-60

45-RH-103 -2

03/01/74

TOTAL
CROSS SECTION

45-RH-103

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

45-RH-103

(EXPANDED BELOW)

TEMP = 7.7000 ± 1 KELVIN

ECISL-2155 (66)

TEMP = 7.7000 ± 1 KELVIN

MEV

5-62

45-RH-103 -4

BARNs

03/01/74

TOTAL
CROSS SECTION

45-RH-103

03/01/74

N, GAMMA
CROSS SECTION

45-RH-103

5-63

45-RH-103 -5

03/01/74

N, GAMMA
CROSS SECTION

45-RH-103

BARNs

5-64

MEV

45-RH-103 -6

03/01/74

N, GAMMA
CROSS SECTION

45-RH-103

03/01/74

N, GAMMA
CROSS SECTION

45-RH-103

03/01/74

N, GAMMA
CROSS SECTION

45-RH-103

03/01/74

45-RH-103

ELASTIC CROSS SECTION

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
53	874	1.5000- 7	4.1000+ 0	
65	889	6.0400+ 0	2.3000- 1	1.7000+ 0
				2.5000- 1

03/01/74

45-RH-103

N, GAMMA

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47	888	2.5300- 8	1.4860+ 2	1.4860+ 1
62	697	2.5000- 2	5.0000- 3	6.4010- 1
				2.2000- 1
63	1	3.0000- 2	8.0010- 3	8.5010- 1
				7.7010- 2
61	677	6.5000- 2	2.0000- 2	5.4010- 1
				5.4010- 2
63	1	6.5000- 2	2.1000- 2	5.4010- 1
				4.9000- 2
58	1044	2.5000+ 0		6.4400- 2
				6.4000- 3
58	1044	3.1000+ 0		5.2400- 2
				4.6000- 3
58	1044	4.0000+ 0		4.2300- 2
				3.8000- 3
63	749	1.4670+ 1		1.0570- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	DELTA HALF-LIFE SECONDS
66	2150	2.5300- 8		1.3500+ 2	3.0000+ 0
					4.2000+ 1
66	1788	2.4000- 2		4.5500- 1	4.5000- 2
					4.2000+ 1
63	749	1.4670+ 1		3.2300- 3	4.2000+ 1
58	1044	2.5000+ 0		5.4600- 2	4.5000- 3
					4.4000+ 1
58	1044	3.1000+ 0		4.3500- 2	3.2000- 3
					4.4000+ 1
58	1044	4.0000+ 0		3.4600- 2	2.7000- 3
					4.4000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	DELTA HALF-LIFE MINUTES
66	2150	2.5300- 8		1.1000+ 1	1.0000+ 0
					4.4000+ 0
66	1788	2.4000- 2		5.5000- 2	2.5000- 2
					4.4000+ 0
67	1991	3.0000+ 0	2.0000- 1	2.0800- 2	4.0000- 3
					4.4000+ 0
58	1044	2.5000+ 0		9.8000- 3	1.9000- 3
					4.7000+ 0
58	1044	3.1000+ 0		8.9000- 3	1.4000- 3
					4.7000+ 0
58	1044	4.0000+ 0		7.7000- 3	1.1000- 3
					4.7000+ 0

03/01/74

TOTAL
CROSS SECTION

46-PD-NAT

03/01/74

TOTAL
CROSS SECTION

46-PD-NAT

03/01/74

TOTAL CROSS SECTION

46-PD-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

46-PD-NAT

ECSIL-673 (60)

03/01/74

ELASTIC
CROSS SECTION

46-PD-NAT

ECSIL-3154 (71)

5-72

46-PD-NAT -4

03/01/74

N, GAMMA
CROSS SECTION

46-PD-NAT

5-73

MEV

46-PD-NAT -5

03/01/74

TOTAL
CROSS SECTION

46-PD-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
56 232	1.4000+ 1		4.3200+ 0	4.0000- 2
57 368	1.4800+ 1		4.0000+ 0	1.0000- 1

03/01/74

N, GAMMA

46-PD-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0010- 3	4.5400- 1	4.1000- 2
63 1	6.5000- 2	2.1000- 2	2.6500- 1	2.4000- 2

03/01/74

N, GAMMA
CROSS SECTION

46-PD-108

03/01/74

N, GAMMA

46-PD-108

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 1788	$2.4000-2$		$1.8500-1$	$1.5000-2$
59 526	$1.9500-1$	$1.5000-2$	$7.7010-2$	$8.0010-3$

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
68 2392	$2.4000-2$		$2.6000-2$	$6.0000-3$	$4.8000+0$

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
47 888	$2.5300-8$		$1.1200+1$	$2.2400+0$	$1.3000+1$
68 2392	$2.4000-2$		$1.5900-1$	$1.6000-2$	$1.3500+1$
57 305	$2.4000-2$	$5.0000-3$	$5.4010-1$	$6.0010-2$	$1.3500+1$
57 23	$2.1000-2$	$4.0000-3$	$5.6010-1$	$2.0000-1$	$1.3500+1$

03/01/74

N, GAMMA CROSS SECTION

46-PD-110

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 212	2.0000- 1	2.8000- 2	1.4600- 1	7.0010- 2
49 212	9.0000- 1	1.3000- 2	1.3100- 1	5.0000- 2
57 521	1.4500+ 1		2.0000- 3	4.0000- 4

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE MINUTES
66 1788	2.4000- 2		1.2000- 1	1.5000- 2	2.2000+ 1
58 1044	2.5000+ 0		2.2100- 2	2.0000- 3	2.2000+ 1
58 1044	3.1000+ 0		2.0000- 2	1.8000- 3	2.2000+ 1
58 1044	4.0000+ 0		1.6200- 2	1.6000- 3	2.2000+ 1
47 888	2.5300- 8		3.9000- 1	7.8000- 2	2.6000+ 1

03/01/74

TOTAL
CROSS SECTION

47-AG-NAT

03/01/74

TOTAL
CROSS SECTION

47-AG-NAT

03/01/74

TOTAL
CROSS SECTION

47-AG-NAT

03/01/74

TOTAL
CROSS SECTION

47-AG-NAT

03/01/74

47-AG-NAT

TOTAL
CROSS SECTION

BARNS

MEV

5-81

47-AG-NAT -5

03/01/74

TOTAL
CROSS SECTION

47-AG-NAT

5-82

MEV

47-AG-NAT -6

03/01/74

TOTAL
CROSS SECTION

47-AG-NAT

03/01/74

TOTAL
CROSS SECTION

47-AG-NAT

ECSIL-16 (55)

ECSIL-133 (55)

ECSIL-673 (57)

BARN

03/01/74

TOTAL
CROSS SECTION

47-AG-NAT

03/01/74

ELASTIC
CROSS SECTION

47-AG-NAT

03/01/74

N, GAMMA
CROSS SECTION

47-AG-NAT

03/01/74

N, GAMMA CROSS SECTION

47-AG-NAT

BARNs

03/01/74

N, GAMMA
CROSS SECTION

47-AG-NAT

5-89

MEV

47-AG-NAT -13

03/01/74

N, GAMMA
CROSS SECTION

47-AG-NAT

03/01/74

N,GAMMA
CROSS SECTION

47-AG-NAT

03/01/74

TOTAL

47-AG-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65	949	1.4400- 6	1.7470+ 1	5.0000- 2	52	81	1.4000+ 1	4.3400+ 0	9.0010- 2
49	844	1.1500- 4	1.1500- 5	6.2110+ 0	45	307	2.5400+ 1	3.7000+ 0	3.7000- 1
49	844	3.0000- 4	3.0000- 5	6.4310+ 0	50	281	4.2000+ 1	1.0000+ 0	3.2290+ 0
62	2165	6.7000+ 0	1.0000- 1	4.3300+ 0				3.4000- 2	

03/01/74

ELASTIC

47-AG-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	1750	6.5000- 1	6.8500+ 0	1.6000- 1	65	1599	2.0000+ 0	5.0000- 2	3.2000+ 0
54	103	1.0000+ 0	8.0000- 2	4.5000+ 0	62	2165	6.7000+ 0	1.0000- 1	2.1100+ 0

03/01/74

N, GAMMA CROSS SECTION

47-AG-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 697	2.5000- 2	5.0000- 3	1.2000+ 0	3.9000- 1
60 633	2.5000- 2	5.0000- 3	9.8410- 1	4.9000- 2
60 639	2.5000- 2	5.0000- 3	1.1850+ 0	8.0010- 2
63 1	3.0000- 2	8.0010- 3	9.5110- 1	8.6010- 2
63 1	6.5000- 2	2.1000- 2	5.8610- 1	5.3010- 2
58 363	2.0000- 1		5.5000- 1	7.7000- 2
60 633	2.2000- 1	2.0000- 2	4.5200- 1	4.0000- 2
60 633	8.3000- 1	4.0000- 2	2.3000- 1	2.3000- 2

03/01/74

N, GAMMA CROSS SECTION

47-AG-107

BARNs

5-93

MEV

47-AG-107 -1

03/01/74

N, GAMMA
CROSS SECTION

47-AG-107

03/01/74

TOTAL

47-AG-107

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.3400+ 0	3.0000- 2

03/01/74

N, GAMMA
CROSS SECTION

47-AG-107

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 357	2.1000- 2		1.7880+ 0	2.0800- 1
58 43	2.1000- 2	4.0000- 3	1.2940+ 0	9.1010- 2
57 305	2.4000- 2	5.0000- 3	9.3010- 1	1.8000- 1
62 697	2.5000- 2	5.0000- 3	8.0010- 1	2.8000- 1
59 526	1.9500- 1	1.5000- 2	2.9000- 1	6.0010- 2
58 363	2.0000- 1	3.0000- 2	3.9000- 1	1.3000- 2
46 167	3.9000- 1	1.5000- 2	1.3000- 1	5.0000- 2
58 363	2.7000+ 0		5.6000- 2	1.0000- 3
58 363	4.0000+ 0		2.9400- 2	9.0000- 4
46 167	5.9000+ 0	1.0000- 1	1.9000- 2	3.0000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
65 867	2.4000- 2		8.4000- 1	9.0000- 2 2.4000+ 0
67 1991	3.0000+ 0	2.0000- 1	5.1000- 2	8.0000- 3 2.4000+ 0

03/01/74

TOTAL
CROSS SECTION

47-AG-109

ECSIL-2173 (66)

BARNs

03/01/74

N, GAMMA
CROSS SECTION

47-AG-109

ECSIL-2387 (66)

BARNs

5-96

47-AG-109 -1

03/01/74

N, GAMMA
CROSS SECTION

47-AG-109

03/01/74

TOTAL
CROSS SECTION

47-AG-109

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.3800+ 0	2.0000- 2

03/01/74

N, GAMMA

47-AG-109

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		9.9300+ 1	1.9860+ 1
62 697	2.5000- 2	5.0000- 3	1.6200+ 0	4.8000- 1
46 167	3.9000- 1	1.5000- 2	1.7000- 1	8.0010- 2
46 167	5.9000+ 0	1.0000- 1	9.6010- 2	5.0000- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs SECONDS
66 1788	2.4000- 2		6.9000- 1	6.0000- 2 2.4000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs DAYS
66 3019	7.8000- 3		5.0000- 2	2.5000+ 2
66 3019	3.0000- 2		4.0000- 2	2.5000+ 2
66 3019	6.4000- 2		6.0000- 2	2.5000+ 2

03/01/74

TOTAL
CROSS SECTION

48-CD-NAT

03/01/74

TOTAL
CROSS SECTION

48-CD-NAT

5-100

MEV

48-CD-NAT -2

03/01/74

TOTAL
CROSS SECTION

48-CD-NAT

5-101

MEV

48-CD-NAT -3

03/01/74

TOTAL
CROSS SECTION

48-CD-NAT

03/01/74

TOTAL
CROSS SECTION

48-CD-NAT

03/01/74

TOTAL
CROSS SECTION

48-CD-NAT

BARN

03/01/74

TOTAL CROSS SECTION

48-CD-NAT

03/01/74

ELASTIC
CROSS SECTION

48-CD-NAT

BARNs

03/01/74

N, GAMMA
CROSS SECTION

48-CD-NAT

03/01/74

TOTAL
CROSS SECTION

48-CD-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 3378	7.6000-12	1.3680-12	1.0400+ 5	5.0000+ 3	56 138	2.0000- 3	6.0010- 4	7.0010+ 0	
68 3378	9.2000-12	1.6560-12	1.0100+ 5	7.0000+ 3	47 46	2.4000- 2	1.5000- 2	6.9010+ 0	3.0000- 1
68 3378	1.0800-11	1.9440-12	8.7000+ 4	5.0000+ 3	55 296	4.1000+ 0	4.0000- 2	4.1000+ 0	2.0000- 1
67 1875	2.5300- 8		2.4550+ 3	1.0000+ 1	52 81	1.4000+ 1		4.4400+ 0	9.0010- 2
49 844	1.1500- 4	1.1500- 5	5.6710+ 0		57 368	1.4800+ 1		4.1200+ 0	6.0010- 2
49 844	3.0000- 4	3.0000- 5	5.1710+ 0		69 3160	5.7000+ 3	6.0000+ 2	2.1200+ 0	3.0000- 2
46 261	1.0000- 3	5.0000- 4	7.0010+ 0	2.0000- 1	71 3180	2.6500+ 4	3.5000+ 3	1.9070+ 0	3.2000- 2
56 138	1.0000- 3	3.0000- 4	5.0000+ 0						

03/01/74

ELASTIC

48-CD-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 261	1.7600- 7	2.0000- 9	5.3000+ 0	7.0000- 1	54 103	1.0000+ 0	8.0000- 2	5.5000+ 0	8.2500- 1
63 1699	3.0000- 1	2.5000- 2	7.4400+ 0	3.0000- 1	65 1509	2.0000+ 0	5.0000- 2	3.9000+ 0	
64 870	5.0000- 1	5.0000- 2	6.8800+ 0	2.1000- 1	65 889	6.0400+ 0	2.3000- 1	1.8000+ 0	3.0000- 1
64 870	8.0000- 1	5.0000- 2	6.1600+ 0	1.8000- 1	60 631	1.4600+ 1	1.0000- 1	2.3700+ 0	2.1000- 1

03/01/74

N, GAMMA

48-CD-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2175	2.5300- 8		2.4840+ 3	1.4000+ 1	63 799	3.0000- 2	3.0000- 3	3.4300- 1	7.2010- 2
64 895	2.5300- 8		2.3920+ 3	4.5000+ 1	63 1	3.0000- 2	8.0010- 3	3.3000- 1	3.0000- 2
64 895	2.5300- 8		2.4450+ 3	2.5000+ 1	63 1	6.5000- 2	2.1000- 2	1.8300- 1	1.6000- 2
64 895	2.5300- 8		2.4440+ 3		58 363	2.0000- 1		1.7700- 1	3.3000- 2
60 639	2.4000- 2	2.0000- 3	5.1510- 1	7.0010- 2	60 674	4.0000- 1	4.0000- 2	1.0100- 1	1.1000- 2

03/01/74

NEUTRONS/NONELASTIC EVENT

48-CD-NAT

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 877	1.4000+ 1		1.7400+ 0	2.0000- 1

03/01/74

TOTAL
CROSS SECTION

48-CD-106

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.2900+ 0	7.0000- 2

03/01/74

TOTAL
CROSS SECTION

48-CD-108

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.3300+ 0	7.0000- 2

03/01/74

TOTAL
CROSS SECTION

48-CD-110

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.3400+ 0	4.0000- 2

03/01/74

N, GAMMA

48-CD-110

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
48 2688	2.5300- 8		2.0000- 1	

03/01/74

TOTAL
CROSS SECTION

48-CD-111

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.4400+ 0	4.0000- 2

03/01/74

TOTAL
CROSS SECTION

48-CD-112

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.5300+ 0	3.0000- 2

03/01/74

TOTAL
CROSS SECTION

48-CD-113

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.5000+ 0	3.0000- 2

03/01/74

TOTAL
CROSS SECTION

48-CD-114

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1643	4.0000+ 0	5.0000- 2	4.2100+ 0	1.0000- 1
67 1869	1.4200+ 1		4.5400- 0	2.0000- 2

03/01/74

ELASTIC

48-CD-114

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 1643	4.0000+ 0	5.0000- 2	2.0000+ 0	1.4000- 1

03/01/74

N, GAMMA

48-CD-114

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 2732	2.5300- 8		3.0000- 1	1.5100- 1
47 888	2.5300- 8		1.2400+ 0	2.4800- 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs HOURS
65 867	2.4000- 2		2.4000- 1	2.5000- 2 5.6000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs DAYS
66 2622	2.5300- 8		3.0000- 1	1.5000- 2 2.3000+ 0
66 2622	2.5300- 8		3.6000- 2	7.0000- 3 4.3000+ 1

03/01/74

TOTAL
CROSS SECTION

48-CD-116

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.5600+ 0	3.0000- 2

03/01/74

N, GAMMA

48-CD-116

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 893	2.5300- 8		1.4000+ 0	2.8000- 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
66 1788	2.4000- 2		2.7000- 1	2.5000- 2 5.0000+ 1

03/01/74

TOTAL
CROSS SECTION

49-IN-NAT

5-117

MEV

49-IN-NAT -1

03/01/74

TOTAL
CROSS SECTION

49-IN-NAT

5-118

MEV

49-IN-NAT -2

03/01/74

TOTAL CROSS SECTION

49-IN-NAT

5-119

MEV

49-IN-NAT -3

BARNs

03/01/74

TOTAL
CROSS SECTION

49-IN-NAT

5-120

MEV

49-IN-NAT -4

BARNs

03/01/74

TOTAL
CROSS SECTION

49-IN-NAT

FCSIL-673 (60)

03/01/74

ELASTIC
CROSS SECTION

49-IN-NAT

FCSIL-885 (66)

5-121

49-IN-NAT -5

03/01/74

ELASTIC
CROSS SECTION

49-IN-NAT

03/01/74

N,GAMMA
CROSS SECTION

49-IN-NAT

5-122

49-IN-NAT -6

03/01/74

N, GAMMA

49-IN-NAT

CROSS SECTION

ECSIL-2067 (62)

ECSIL-718 (61)

ECSIL-677 (61)

BARN

5-123

MEV

49-IN-NAT -7

03/01/74

N, GAMMA
CROSS SECTION

49-IN-NAT

03/01/74

TOTAL

49-IN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARN	DELTA BARN
49	844	1.1500- 4	1.1500- 5	5.8410+ 0	61	637	3.6600+ 0	2.0000- 1	4.2800+ 0
49	844	3.0000- 4	3.0000- 5	6.0610+ 0	62	2165	6.7000+ 0	1.0000- 1	4.3900+ 0
47	44	1.0000- 3	1.0000- 4	3.0000+ 1	52	81	1.4000+ 1		4.5300+ 0
				1.0000+ 1					9.0010- 2

03/01/74

ELASTIC
CROSS SECTION

49-IN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
54 103	1.0000+ 0	8.0000- 2	6.2000+ 0	9.3000- 1
62 2165	6.7000+ 0	1.0000- 1	2.0800+ 0	

03/01/74

N, GAMMA

49-IN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 639	2.4000- 2	2.0000- 3	8.2310- 1	6.0010- 2
62 697	2.5000- 2	5.0000- 3	8.5010- 1	3.4000- 1
66 3019	3.0000- 2		8.1400- 1	4.8000- 2
68 2220	1.4100+ 1	1.3500+ 0	1.1000- 3	1.7000- 4

03/01/74

N, GAMMA
CROSS SECTION

49-IN-113

ECSIL-1096 (68)

HALF-LIFE = 7.2000 + 1 SEC.

ECSIL-1096 (68)

HALF-LIFE = 5.0000 + 1 DAYS

03/01/74

N, GAMMA

49-IN-113

REFERENCE	ENERGY	DELTA	X-SEC	DELTA
	MEV	MEV	BARNs	BARNs
66 1788	2.4000 - 2	2.6000 - 1	9.0000 - 2	

03/01/74

N, GAMMA
CROSS SECTION

49-IN-113

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
57 23	2.1000- 2	4.0000- 3	8.3910+ 0	2.7000+ 0	4.9000+ 1
66 3019	7.8000- 3		1.1200+ 0		5.0000+ 1
66 3019	3.0000- 2		6.1200- 1		5.0000+ 1
66 3019	6.4000- 2		4.5000- 1		5.0000+ 1
47 888	2.5300- 8		5.6000+ 1	1.1200+ 1	4.8000+ 1

03/01/74

N, GAMMA
CROSS SECTION

49-IN-115

BARNs

MEV

5-128

49-IN-115 -1

03/01/74

N, GAMMA
CROSS SECTION

49-IN-115

03/01/74

N, GAMMA

49-IN-115

CROSS SECTION

BARNs

03/01/74

TOTAL

49-IN-115

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1643	4.0000 ± 0	$5.0000 - 2$	3.9400 ± 0	$1.5000 - 1$
67 1869	1.4200 ± 1		4.5400 ± 0	$2.0000 - 2$

5-130

49-IN-115 -3

03/01/74

ELASTIC
CROSS SECTION

49-IN-115

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 1643	4.0000+ 0	5.0000- 2	1.8400+ 0	1.3000- 1

03/01/74

N, GAMMA

49-IN-115

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 43	2.1000- 2	4.0000- 3	5.7010- 1	2.0000- 2
57 305	2.4000- 2	5.0000- 3	8.0510- 1	8.0010- 2
63 749	2.4000- 2		1.0280+ 0	
58 363	2.0000- 1	1.5000- 2	2.3400- 1	1.5600- 2
56 9	4.0000- 1	9.0010- 2	2.8200- 1	1.4000- 2
58 363	2.7000+ 0		7.4000- 2	3.0000- 3
63 749	3.1000+ 0		1.0800- 1	
58 363	4.0000+ 0		3.9200- 2	1.6000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs SECONDS
65 2738	2.5300- 8		8.1000+ 1	8.0000+ 0 2.0000+ 0
65 867	2.4000- 2		2.2000- 1	3.0000- 2 1.3000+ 1
63 749	2.4000- 2		2.2300- 1	1.4000+ 1
63 749	3.1000+ 0		1.8000- 2	1.4000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES	HALF-LIFE MINUTES
65 867	2.4000- 2		5.8000- 1	4.0000- 2	4.2000- 2 5.4000+ 1
47 888	2.5300- 8		1.4460+ 2	2.8920+ 1	5.4000+ 1
66 3019	7.8000- 3		1.1900+ 0		5.4000+ 1
57 23	2.1000- 2	4.0000- 3	9.5010- 1	2.2000- 1	5.4000+ 1
66 3019	3.0000- 2		6.4000- 1		5.4000+ 1
66 3019	6.4000- 2		3.8300- 1		5.4000+ 1
67 2602	2.8000+ 0	7.0000- 2	4.0000+ 1	5.2000+ 0	5.4000+ 1
68 3375	2.9000+ 0	2.0000- 1	6.8000- 2	1.1000- 2	5.4000+ 1
67 1991	3.0000+ 0	2.0000- 1	6.8000- 2	1.0000- 2	5.4000+ 1
59 526	1.9500- 1	1.5000- 2	1.9500- 1	1.0000- 2	5.4010+ 1

03/01/74

TOTAL
CROSS SECTION

50-SN-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

50-SN-NAT

BARNs

MEV

03/01/74

TOTAL
CROSS SECTION

50-SN-NAT

6-3

50-SN-NAT -3

03/01/74

TOTAL
CROSS SECTION

50-SN-NAT

BARNs

6-4

50-SN-NAT --4

03/01/74

TOTAL
CROSS SECTION

50-SN-NAT

BARN

03/01/74

TOTAL

CROSS SECTION

50-SN-NAT

TEMP= 2.9800+ 2 KELVIN

TEMP= 4.7800+ 2 KELVIN

MEV

6-6

50-SN-NAT -6

BARNs

03/01/74

ELASTIC
CROSS SECTION

50-SN-NAT

03/01/74

N, GAMMA
CROSS SECTION

50-SN-NAT

6-7

50-SN-NAT -7

03/01/74

TOTAL
CROSS SECTION

50-SN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	5.0710+ 0		52 81	1.4000+ 1		4.6800+ 0	9.0010- 2
49 844	3.0000- 4	3.0000- 5	4.8700+ 0		57 368	1.4800+ 1		4.0500+ 0	7.0010- 2
48 189	1.0000- 3		5.1010+ 0	1.0000- 1	50 281	4.2000+ 1	1.0000+ 0	3.2510+ 0	2.3000- 2
48 189	5.0000- 3		5.2010+ 0	1.0000- 1	49 286	9.0000+ 1		3.2800+ 0	6.0010- 2
48 189	1.0000- 2		5.5010+ 0	1.0000- 1	50 12	9.5000+ 1		3.1800+ 0	3.0000- 2
55 296	4.1000+ 0	4.0000- 2	4.3000+ 0	2.0000- 1	55 2056	1.4000+ 3	2.0000+ 2	2.2000+ 0	6.6000- 2
69 2025	8.9400+ 0	5.0000- 1	5.1100+ 0	1.5000- 1	61 1566	5.0000+ 3	4.0000+ 2	1.9860+ 0	8.8000- 2
52 207	1.4000+ 1		4.0000+ 0	4.0000- 1					

03/01/74

ELASTIC

50-SN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
60 596	2.2000- 1		6.8010+ 0		64 870	8.0000- 1	5.0000- 2	6.6600+ 0	1.6000- 1
63 1699	3.0000- 1	2.5000- 2	7.0500+ 0	2.7000- 1	54 103	1.0000+ 0	8.0000- 2	6.1000+ 0	9.1500- 1
64 670	5.0000- 1	5.0000- 2	6.6300+ 0	2.2000- 1	65 889	6.0400+ 0	2.3000- 1	1.8000+ 0	3.0000- 1
63 1750	6.5000- 1		6.8700+ 0	1.8000- 1	58 403	1.4500+ 1		2.5900+ 0	1.3000- 1

03/01/74

N, GAMMA

50-SN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1	3.0000- 2	8.0010- 3	8.8010- 2	1.6000- 2
61 677	3.0000- 2	7.0010- 3	8.8010- 2	1.5000- 2
63 799	3.0000- 2	3.0000- 3	1.2400- 1	3.0000- 2
61 677	6.5000- 2	2.0000- 2	5.1010- 2	1.0000- 2
63 1	6.5000- 2	2.1000- 2	5.1010- 2	1.1000- 2
58 363	2.0000- 1		6.8000- 2	9.0000- 3

03/01/74

NEUTRONS/NONELASTIC EVENT

50-SN-NAT

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
58 877	1.4000+ 1		1.8100+ 0	2.0000- 1

03/01/74

TOTAL
CROSS SECTION

50-SN-112

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.4100+ 0	3.0000- 2

03/01/74

N, GAMMA

50-SN-112

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs	DAYS
47 888	2.5300- 8		1.1000+ 0	2.2000- 1	1.0500+ 2

03/01/74

N, GAMMA
CROSS SECTION

50-SN-116

03/01/74

TOTAL

50-SN-116

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.4300+ 0	8.0000- 2

03/01/74

N, GAMMA

50-SN-116

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 938	3.0000- 2	1.6000- 2	9.2000- 2	1.9000- 2

03/01/74

N,GAMMA
CROSS SECTION

50-SN-117

03/01/74

TOTAL

50-SN-117

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.6400+ 0	5.0000- 2

03/01/74

N,GAMMA

50-SN-117

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 938	3.0000- 2	1.6000- 2	3.9000- 1	8.2000- 2

03/01/74

N,GAMMA
CROSS SECTION

50-SN-118

03/01/74

TOTAL

50-SN-118

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1643	4.0000+ 0	5.0000- 2	4.2100+ 0	1.3000- 1
67 1869	1.4200+ 1		4.7500+ 0	7.0000- 2

03/01/74

ELASTIC

50-SN-118

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 1643	4.0000+ 0	5.0000- 2	1.9400+ 0	1.4000- 1

03/01/74

N,GAMMA

50-SN-118

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 938	3.0000- 2	1.6000- 2	5.9000- 1	1.2000- 2

03/01/74

N, GAMMA
CROSS SECTION

50-SN-119

03/01/74

TOTAL

50-SN-119

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.4600+ 0	1.0000- 1

03/01/74

N, GAMMA

50-SN-119

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
62 938	3.0000- 2	1.6000- 2	2.4300- 1	5.1000- 2

03/01/74

N, GAMMA
CROSS SECTION

50-SN-120

03/01/74

TOTAL

50-SN-120

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.6600+ 0	4.0000- 2

03/01/74

N, GAMMA

50-SN-120

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2856	2.4000- 2		7.7000- 2	1.1000- 2
62 938	3.0000- 2	1.6000- 2	3.5000- 1	7.0000- 3

03/01/74

TOTAL
CROSS SECTION

50-SN-122

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.6900+ 0	4.0000- 2

03/01/74

N, GAMMA

50-SN-122

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2856	2.4000- 2		1.9500- 1	5.0000- 2
62 938	3.0000- 2	1.6000- 2	2.3000- 1	5.0000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
58 1044	2.5000+ 0		7.5000- 3	4.0000+ 1
58 1044	3.1000+ 0		6.5000- 3	4.0000+ 1
58 1044	4.0000+ 0		5.7000- 3	4.0000+ 1

03/01/74

N, GAMMA
CROSS SECTION

50-SN-124

03/01/74

TOTAL

50-SN-124

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200 ± 1		4.7100 ± 0	6.0000 ± 2

03/01/74

N, GAMMA

50-SN-124

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2856	2.4000 ± 2		2.2000 ± 1	5.5000 ± 2
62 938	3.0000 ± 2	1.6000 ± 2	2.3000 ± 1	4.0000 ± 3

03/01/74

51-SB-NAT

TOTAL
CROSS SECTION

03/01/74

TOTAL
CROSS SECTION

51-SB-NAT

BARNs

03/01/74

TOTAL CROSS SECTION

51-SB-NAT

BARNs

03/01/74

TOTAL
CROSS SECTION

51-SB-NAT

03/01/74

TOTAL
CROSS SECTION

51-SB-NAT

03/01/74

TOTAL
CROSS SECTION

51-SB-NAT

BARNs

6-22

MEV

51-SB-NAT -6

03/01/74

TOTAL
CROSS SECTION

51-SB-NAT

BARNs

03/01/74

ELASTIC
CROSS SECTION

51-SB-NAT

BARNs

03/01/74

N,GAMMA
CROSS SECTION

51-SB-NAT

BARNs

6-24

51-SB-NAT -8

03/01/74

N, GAMMA
CROSS SECTION

51-SB-NAT

03/01/74

N,GAMMA
CROSS SECTION

51-SB-NAT

03/01/74

TOTAL

51-SB-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844	3.0000- 4	3.0000- 5	5.4610+ 0	52	207	1.4000+ 1	4.6000+ 0	3.0000- 1
61	637	3.6600+ 0	2.0000- 1	4.7800+ 0	52	81	1.4000+ 1	4.7100+ 0	9.0010- 2
60	576	4.1000+ 0	1.0000- 1	4.4000+ 0					

03/01/74

ELASTIC

51-SB-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64	1255	3.0000- 1	6.0900+ 0	3.7000- 1	54	103	1.0000+ 0	8.0000- 2	6.2000+ 0
64	1255	5.0000- 1	6.6100+ 0	3.1000- 1	65	1599	2.0000+ 0	5.0000- 2	5.2000+ 0
64	1255	8.0000- 1	6.5600+ 0	3.1000- 1	60	576	4.1000+ 0	1.0000- 1	2.1000+ 0

03/01/74

N,GAMMA

51-SB-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63	639	2.4000- 2	2.2000- 3	5.7800- 1	63	1	6.5000- 2	2.1000- 2	2.4500- 1
63	1	3.0000- 2	8.0010- 3	4.3600- 1	58	363	2.0000- 1	2.5500- 1	3.3000- 2

03/01/74

N.GAMMA
CROSS SECTION

51-SB-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
56	9 4.0000- 1	9.0010- 2	1.4700- 1	1.3000- 2

03/01/74

NEUTRONS/NONELASTIC EVENT

51-SB-NAT

REFERENCE	ENERGY MEV	DELTA MEV	RATIO	DELTA
5B 877	1.4000+ 1		1.8200+ 0	2.0000- 1

03/01/74

N, GAMMA
CROSS SECTION

51-SB-121

BARNs

03/01/74

TOTAL

51-SB-121

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1859	1.4200+ 1		4.6600+ 0	2.0000- 2

03/01/74

N, GAMMA

51-SB-121

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2632	2.5300- 8		8.3000- 3	9.0000- 4
68 2856	2.4000- 2		7.0000- 1	7.0000- 2
67 1991	3.0000+ 0	2.0000- 1	3.3000- 2	7.0000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
66 3019	7.8000- 3		7.2000- 1		2.8000+ 0
57 23	2.1000- 2	4.0000- 3	7.9010- 1	2.5000- 1	2.8000+ 0
57 305	2.4000- 2	5.0000- 3	9.5010- 1	1.0000- 1	2.8000+ 0
66 3019	3.0000- 2		3.4000- 1		2.8000+ 0
66 3019	6.4000- 2		2.8000- 1		2.8000+ 0
59 526	1.9500- 1	1.5000- 2	4.0000- 1	4.0000- 2	2.8000+ 0

03/01/74

TOTAL
CROSS SECTION

51-SB-123

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.6800+ 0	3.0000- 2

03/01/74

N, GAMMA

51-SB-123

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
68 2856	2.4000- 2		3.1000- 3	1.5000- 3
68 2856	2.4000- 2		5.4000- 3	1.3000- 3
68 2856	2.4000- 2		5.7500- 1	5.0000- 2
57 305	2.4000- 2	5.0000- 3	4.5600- 1	4.6000- 2
67 1695	1.4700+ 1		1.5000- 2	3.0000- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE DAYS
66 3019	7.8000- 3		5.2000- 1		6.0000+ 1
66 3019	3.0000- 2		2.3000- 1		6.0000+ 1
66 3019	6.4000- 2		1.8000- 1		6.0000+ 1
57 23	2.1000- 2	4.0000- 3	2.2000- 1	1.0000- 1	6.0010+ 1
59 526	1.9500- 1	1.5000- 2	2.8000- 1	3.0000- 2	6.0010+ 1

03/01/74

TOTAL CROSS SECTION

52-TE-NAT

03/01/74

TOTAL
CROSS SECTION

52-TE-NAT

03/01/74

ELASTIC
CROSS SECTION

52-TE-NAT

03/01/74

TOTAL

52-TE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49	844	1.1500- 4	1.1500- 5	5.1710+ 0	52	81	1.4000+ 1	4.8500+ 0	1.0000- 1
49	844	3.0000- 4	3.0000- 5	5.0510+ 0	70	3300	1.4500+ 1	4.8100+ 0	5.0000- 2
61	637	3.6600+ 0	2.0000- 1	4.5800+ 0					
				2.3000- 1					

03/01/74

ELASTIC

52-TE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
63 1699	3.0000- 1	2.5000- 2	6.2100+ 0	2.5000- 1	64 886	8.0000- 1	5.0000- 2	5.9400+ 0	2.0000- 1
64 886	5.0000- 1	5.0000- 2	5.5900+ 0	2.1000- 1	54 193	1.0000+ 0	8.0000- 2	5.9000+ 0	8.8500- 1
63 1750	6.5000- 1		6.2500+ 0	2.0000- 1					

03/01/74

N, GAMMA
CROSS SECTION

52-TE-NAT

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
51 2398	2.5000- 8		4.4300+ 0	1.5000- 1
60 633	2.5000- 2	1.0000- 3	2.4000- 1	3.0000- 2
63 1	3.0000- 2	8.0010- 3	9.7010- 2	8.7010- 3
63 1	6.5000- 2	2.1000- 2	3.5000- 2	3.2000- 3
58 1044	2.5000+ 0		1.2400- 2	3.3000- 3
58 1044	3.1000+ 0		1.0100- 2	3.0000- 3
58 1044	4.0000+ 0		7.2000- 3	2.1000- 3

03/01/74

N, GAMMA
CROSS SECTION

52-TE-122

03/01/74

TOTAL

52-TE-122

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.6500+ 0	4.0000- 2

03/01/74

N, GAMMA
CROSS SECTION

52-TE-123

03/01/74

N, GAMMA
CROSS SECTION

52-TE-124

03/01/74

TOTAL

52-TE-124

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.6000+ 0	5.0000- 2

03/01/74

N, GAMMA
CROSS SECTION

52-TE-124

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs	DAYS
59 2672	2.5300- 8		4.0000- 2	2.5000- 2	5.8000+ 1

03/01/74

N, GAMMA
CROSS SECTION

52-TE-125

03/01/74

TOTAL

52-TE-125

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200	0.1	4.6900	0.4.0000

03/01/74

N, GAMMA
CROSS SECTION

52-TE-126

03/01/74

TOTAL

52-TE-126

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1865	1.4200 ± 1		4.7300 ± 0	2.0000 ± 2

03/01/74

N, GAMMA
CROSS SECTION

52-TE-126

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888 2	310- 8		8.5300- 1	1.7060- 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs HOURS
65 867 2	4000- 2		6.6000- 2	1.1000- 2 9.3000+ 0

03/01/74

N, GAMMA
CROSS SECTION

52-TE-128

03/01/74

TOTAL
CROSS SECTION

52-TE-128

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.7600+ 0	3.0000- 2

03/01/74

N, GAMMA

52-TE-128

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		1.4800- 1	2.9600- 2

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA HALF-LIFE BARNs MINUTES
66 1788	2.4000- 2		1.4500- 1	2.5000- 2 7.2000+ 1

03/01/74

TOTAL
CROSS SECTION

52-TE-130

03/01/74

N, GAMMA
CROSS SECTION

52-TE-130

6-43

52-TE-130 -1

N, GAMMA
CROSS SECTION

Two plots showing the energy dependence of the total cross section for the reaction $p + {}^{18}\text{O} \rightarrow p + {}^{18}\text{O}$.

The top plot is labeled ECSIL-1807 (67). The y-axis is labeled BARNs and ranges from 0 to 1.6×10^2 . The x-axis is labeled MEV and ranges from 0.4 to 1.2 $\times 10^1$. The data points show a sharp resonance peak around 0.5 $\times 10^1$ MeV.

The bottom plot is labeled ECSIL-2994 (69). The y-axis is labeled BARNs and ranges from 0 to 1.6×10^2 . The x-axis is labeled MEV and ranges from 2 to 3 $\times 10^1$. The data points show a broad resonance peak around 2.5 $\times 10^1$ MeV. A text label indicates HALF-LIFE = 2.5000 + 1 MIN.

TOTAL

52-TE-130

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
67 1869	1.4200+ 1		4.8100+ 0	2.0000- 2

03/01/74

N, GAMMA
CROSS SECTION

52-TE-130

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BAPNS	DELTA BAPNS
47 888	2.5300- 8		2.3000- 1	4.6000- 2
49 212	2.0000- 1	2.8000- 2	3.4000- 2	1.7000- 2
49 212	9.0000- 1	1.3000- 2	2.6500- 2	8.0010- 3

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BAPNS	DELTA BAPNS	HALF-LIFE MINUTES
68 2392	2.4000- 2		7.2000- 2	1.2000- 2	2.5000+ 1
68 2345	3.0000+ 0	2.0000- 1	2.1660- 2	1.0700- 3	2.5000+ 1

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BAPNS	DELTA BAPNS	HALF-LIFE DAYS
68 2392	2.4000- 2		2.2000- 2	8.0000- 3	1.2000+ 0

03/01/74

53-I -127

TOTAL
CROSS SECTION

BARNs

03/01/74

TOTAL
CROSS SECTION

53-1 -127

03/01/74

TOTAL
CROSS SECTION

53-1 -127

6-48

53-1 -127 -3

03/01/74

TOTAL
CROSS SECTION

53-I -127

03/01/74

N, GAMMA
CROSS SECTION

53-I -127

03/01/74

N, GAMMA
CROSS SECTION

53-1 -127

6-50

MEV

53-1 -127 -5

03/01/74

N, GAMMA

53-1 -127

CROSS SECTION

BARNs

6-51

MEV

53-1 -127 -6

03/01/74

53-1 -127

N. GAMMA CROSS SECTION

BARNs

03/01/74

N, GAMMA
CROSS SECTION

53-I -127

03/01/74

TOTAL

53-I -127

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
49 844	1.1500- 4	1.1500- 5	4.1900+ 0		52 81	1.4000+ 1		4.7400+ 0	1.0000- 1
49 844	3.0000- 4	3.0000- 5	4.6400+ 0		70 3300	1.4500+ 1		4.8400+ 0	5.0000- 2
47 45	1.0000- 2		6.5010+ 0	5.0000- 1	61 233	2.8400+ 1		3.8000+ 0	1.0000- 1
67 1643	4.0000+ 0	5.0000- 2	4.8000+ 0	2.0000- 1	50 291	4.2000+ 1	1.0000+ 0	3.5100+ 0	6.0010- 2

03/01/74

ELASTIC

53-I -127

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 1509	2.0000+ 0	5.0000- 2	5.0000+ 0		64 1643	4.0000+ 0	5.0000- 2	2.5700+ 0	1.9000- 1

03/01/74

N, GAMMA
CROSS SECTION

53-1 -127

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300- 8		6.2300+ 0	1.2500+ 0
56 167	3.5000- 3	3.0000- 3	3.0700+ 0	4.3000- 1
65 2206	2.4000- 2		8.3200- 1	2.6000- 2
63 639	2.4000- 2	2.2000- 3	7.6800- 1	9.0000- 2
57 305	2.4000- 2	5.0000- 3	8.2010- 1	6.0010- 2
62 697	2.5000- 2	5.0000- 3	6.3510- 1	1.8000- 1
59 545	2.5000- 2	5.0000- 3	7.9010- 1	1.2000- 1
63 1	3.0000- 2	8.0010- 3	7.3310- 1	6.6010- 2
63 1	6.5000- 2	2.1000- 2	4.4000- 1	4.0000- 2
67 1807	1.2500- 1	2.3000- 2	2.3470- 1	1.7400- 2
67 1807	1.5000- 1	2.1000- 2	1.8360- 1	2.8800- 2
67 1807	1.8200- 1	2.1000- 2	2.0250- 1	2.3100- 2
59 526	1.9500- 1	5.0000- 2	1.7500- 1	1.5000- 2
60 674	4.0000- 1	9.0010- 2	1.7600- 1	1.5000- 2
58 363	2.7000+ 0		4.7000- 2	2.0000- 3
68 3375	2.9000+ 0	2.0000- 1	4.2800- 2	5.0000- 3
67 1991	3.0000+ 0	2.0000- 1	3.1800- 2	6.0000- 3
58 363	4.0000+ 0		2.3000- 2	1.0000- 3
68 2220	1.4100+ 1	1.3500+ 0	1.0600- 3	1.6000- 4
57 521	1.4500+ 1		2.5000- 3	5.0000- 4
68 2483	1.4700+ 1		7.2000- 3	1.2000- 3

03/01/74

TOTAL CROSS SECTION

53-I -129

03/01/74

TOTAL
CROSS SECTION

54-XE-NAT

03/01/74

TOTAL
CROSS SECTION

54-XE-NAT

03/01/74

N, GAMMA
CROSS SECTION

54-XE-124

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
64 2210	2.5300- 8		1.1100+ 2	1.1000+ 1

03/01/74

N, GAMMA
CROSS SECTION

54-XE-126

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
65 2211	2.5300- 8		2.2000+ 0	2.2000- 1

03/01/74

54-XE-135

TOTAL
CROSS SECTION

03/01/74

N, GAMMA
CROSS SECTION

54-XE-136

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
48 2688	2.5300- 8		1.5000- 1	8.0000- 2
45 1211	2.5300- 8		2.8100- 1	2.8000- 2
46 307	1.0030+ 0		1.0000- 3	

03/01/74

TOTAL
CROSS SECTION

55-CS-133

03/01/74

TOTAL
CROSS SECTION

55-CS-133

03/01/74

N, GAMMA
CROSS SECTION

55-CS-133

03/01/74

TOTAL

55-CS-133

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
66 2074	1.4080 ± 1		4.9600 ± 0	2.1000 ± 1

03/01/74

N, GAMMA

55-CS-133

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
47 888	2.5300 ± 8		2.5620 ± 1	5.1230 ± 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE HOURS
57 23 2	1000 - 2	4.0000 - 3	5.0010 - 4	3.0000 - 4	3.1000 ± 0

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs	HALF-LIFE YEARS
57 23 2	1000 - 2	4.0000 - 3	8.8010 - 1	3.0000 - 1	2.3000 ± 0

03/01/74

N, GAMMA
CROSS SECTION

55-CS-135

REFERENCE	ENERGY MEV	DELTA MEV	X-SEC BARNs	DELTA BARNs
58 1163	2.5300- 8		8.7000+ 0	5.0000- 1