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LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL
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January 10, 1956

Printed for the U. S. Atomic Energy Commission

LIST OF CODES FOR REPORT NUMBERS

ACCO	--American Cyanimid Company
AEP	--Monsanto Chemical Company
ALCO	--American Locomotive Company
AMF	--American Machine & Foundry Co.
ANL	--Argonne National Laboratory
ANP	--Aircraft Nuclear Propulsion Project
APEX	--General Electric Company, ANP Project
BAW	--Babcock & Wilcox
BDX	--Bendix Aviation Corp., Detroit
BMI	--Battelle Memorial Institute
BNL	--Brookhaven National Lab.
BRB	--Bridgeport Brass Company
BSC	--Bethlehem Steel Company
CENP	--Combustion Engineering, Inc.
COO	--Chicago Operations Office
CU	--Columbia University
DCDE	--Atomic Power Development Associates
DLWK	--Duquense Light Co--Walter Kidde
DOW	--Dow Chemical Company
DP	--E.I. duPont deNemour & Co.
FWE	--Foreign Weapons Effects
GAT	--Goodyear Atomic Corporation
GEAP	--General Electric Company
GEL	--General Electric Co., General Engineering Laboratory
HEC	--Hooker Electrochemical Co.
HO	--Hanford Operations Office
HW	--Hanford Works, Richland
IDO	--Idaho Operations Office
ISC	--Iowa State College
K	--Carbide and Carbon Chemicals Co. (K-25 Plant)
KAPL	--Knolls Atomic Power Laboratory
KLX	--The Vitro Corporation of America
KLXS	--Vitro Corporation of America (Study Group)
KY	--Carbide and Carbon Chemicals Co. (C-31 Plant)
LA&LAMS	--Los Alamos Scientific Lab.
MCW	--Mallinckrodt Chemical Works
MIT	--Massachusetts Inst. of Tech.
MLM	--Mound Laboratory
NAA-SR	--North American Aviation, Inc.
NBL	--New Brunswick Laboratory
NBS	--National Bureau of Standards
NEA	--Foster Wheeler--Pioneer Service
NLCO	--National Lead Company of Ohio
NMI	--Nuclear Metals Inc.
NNSD	--Newport News Shipbuilding and Dry Dock Co.
NPG	--Commonwealth Edison Co. (Nuclear Power Group)
NYO	--New York Operations Office
ORINS	--Oak Ridge Institute of Nuclear Studies

ORNL	-Carbide & Carbon Chemicals Co. (ORNL)
ORO	-Oak Ridge Operations Office
PWAC	-Pratt & Whitney Aircraft Division of the United Aircraft Corp.
RFP	-Rocky Flats Plant
RME	-Grand Junction Operations Office
RMO	-Division of Raw Materials
SAN	-San Francisco Operations Office
SC	-Sandia Corporation
SEP	-Sylvania Electric Products, Inc.
SFO	-Santa Fe Operations Office
SRO	-Savannah River Operations Office
SO	-Schenectady Operations Office
TEI(M)	-U. S. Geological Survey Trace Elements Reports
TID	-Technical Information Service
TVA	-Tennessee Valley Authority
UCLA	-University of California Medical Research Laboratory
UCRL	-University of California Radiation Laboratory
UR	-University of Rochester
UWFL	-University of Washington Applied Fisheries Laboratory
WAPD	-Bettis Plant
WASH	-AEC, Washington
WEC	-Westinghouse Electric Company Industrial Atomic Power Group
WIN	-National Lead Co., Inc. Winchester
WT	-Weapon Test Reports
Y	-Carbide and Carbon Chemicals Company (Y-12 Plant)

Many prefixes used for research and development reports cover a number of installations. NP("Non-Project") numbers are assigned by the Technical Information Service at Oak Ridge to those reports which it received from sources not under contract to the Atomic Energy Commission. The UCRL Information Division gives "Misc" numbers to any others received here that do not bear an identifying number. Many reports are grouped together under numbers corresponding to an AEC division or operations office. Some of these are as follows:

CO,COO	-Chicago Operations Office
IDO	-Idaho Operations Office
NYO,NYOO	-New York Operations Office
ORO	-Oak Ridge Operations Office
RMO	-Raw Materials Division
WASH	-Atomic Energy Commission, Washington

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INFORMATION DIVISION DURING THE PERIOD OF DECEMBER 14-31, 1955

Radiation Laboratory, Department of Physics
University of California, Berkeley, California

January 10, 1956

<u>Index Number</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
<u>BIOSCIENCES</u>			
APEX-218	Radiological Education and Training Program		1955
HW-39356	Measurements of Relative Wind Erosion of Small Particles from Various Prepared Surfaces	G.R.Hilst	10-5-55
KAPL-1419	Health Physics Report, July, August, September 1955	L.J.Cherubin	
*NP-5792	Ionizing Radiations: Their Production, Effects, and Utilization (with Special Reference to Food and Packaging Technology). Bibliographic Series No. 4. Supplements No. I and II.	Quartermaster Food and Container Inst., Chicago.	8-55
*NP-5793	Ionizing Radiations: Their Production, Effects, and Utilization (with Special Reference to Food and Packaging Technology). Bibliographic Series No. 4. Supplements No. I and II. Subject Index.	Same	8-55
NP-5815	Quarterly Progress Report No. 17	Chicago. Univ. Air Force Radiation Lab.	10-15-55
NYO-4924	Further Studies on the Relationship Between Oxygen Tension and the Protective Actions of Cysteine, Mercaptoethylamine and Para-Aminopropiophenone	P.R.Salerno M.D.Edwin Uyeki H.L.Friedell, et al Western Reserve Univ.	12-1-55

*Microcards

ORNL-1953	Biology Division Semiannual Progress Report for period Ending August 15, 1955	12-12-55
ORO-145	Agricultural Research Program; Semi-annual Progress Report for January 1, 1955 to June 30, 1955	Tennessee Univ. 11-55
UR-302	Physical Plant for a Radioactive Inhalation Laboratory	R.H.Wilson 11-22-55 W.F.Neuman A.Rothstein, et al Rochester Univ.
USNRDL-TR-66	Modification of Actue Intestinal Radiation Syndrome Through Shielding	M.N.Swift 9-22-55 S.T.Taketa

CHEMISTRY

AECD-3671	A Boiling Point-Composition Diagram of the System Uranyl Nitrate-Nitric Acid-Water	A.E.Ruehle 4-1-46 Mallinckrodt Chemical Works, St. Louis
AECD-3674	Collected Radiochemical Procedures	J.W.Barnes 9-10-54 N.A.Bonner C.I.Browne, et al Los Alamos
AECU-3071	Recent Developments in the Processing of Uranium Ores and their Significance in the Extractive Metallurgy of Metals	R.R.Grinstead 9-12-55 Dow Chemical Co.
AECU-3116	Nuclear Chemical Research and Radiochemical Separations. Progress Report No. 4 for November 1954 - October 1955.	Michigan Univ. 11-1-55
AERE-C/R-1708	The Uptake of Fission-Products by Nuneham Courtenay Lower Greensand. Part I. Caesium and Strontium	C.B.Amphlett 9-16-55 L.A.McDonald Gt. Brit. Atomic Energy Research Estab.Harwell
AERE-C/R-1719	Analytical Applications of the Barker Square-Wave Polarograph. Part III.	D.J.Ferrett 8-23-55 G.W.C.Milner Same

*Microcards

AERE-C/R-1725	The Determination of Rubidium and Caesium in Sodium-Potassium Alloys and Related Material by Radioactivation	M.J.Cabell A.Thomas Gt. Brit. Atomic Energy Research Estab.Harwell.	9-55
AERE-C/R-1735	The Preparation of Thorium Tetrafluoride by the Thermal Degradation of the Hydrate	R.W.M.D'Eye G.W.Booth E.A.Harper Same	9-8-55
AERE-C/R-1749	Applications of Differential Spectrophotometry to the Determination of Uranium in Various Binary and Ternary Uranium Base Alloys	A.Bacon G.W.C.Milner Same	9-20-55
AERE-CE/R-1730	A Micro-Mixer-Settler for Laboratory Continuous Counter-Current Solvent Extraction	G.P.Wall Same	7-25-55
BNL-2229	A Technique for the Production of Self-Supporting Gold Films	A.I.Weinstein	
COO-152	On the Formation of the Rhombohedral Graphite Modification. Progress Report	F.Laves Y.Baskin Chicago.Univ.	1955
DP-138	Applications of a Small, Wide-Range Gamma Detector	A.C.Lapsley R.T.Nowak	10-55
IDO-14347	Radiation Stability of Chromium VI Ions in Acetate Buffered Solutions	R.L.Andelin E.L.Anderson	8-22-55
IDO-14357	Determination of Aluminum in Presence of Fluoride, Zirconium and Uranium	B.E.Paige M.C.Elliott J.E.Rein	11-22-55
*ISC-536	The Inference of Adsorption From Double Layer Capacitance Measurements	B.H.Clampitt R.S.Hansen	10-27-54

*Microcards

ISC-596	Titrimetric Determination of Zirconium	M.O.Fulda J.S.Fritz	3-55
ISC-617	Basic Principles Involved in the Macro-Separation of Adjacent Rare Earths from each other by Means of Ion Exchange	J.E.Powell F.H.Spedding	10-26-55
ISC-642	Quarterly Summary Research Report in Engineering for April, May, June, 1955		11-23-55
ISC-661	Titration of Mercury with BIS(2-Hydroxyethyl) Dithiocarbamate	J.S.Fritz S.A.Sutton	11-10-55
KAPL-1422	The Ion Resonance Mass Spectrometer as an Analytical Instrument	C.F.Pachucki L.R.Yetter H.C.Matraw	11-15-55
KAPL-1425	Determination of Microgram Quantities of Barium in Sodium	D.Dutina	6-1-55
KAPL-1444	The Determination of Carbon in Sodium	L.P.Pepkowitz J.T.Porter, II	11-28-55
*MCC-1023-TR-118	Near Infrared Spectra of the Boron Hydrides and Related Topics (thesis)	E.J.Levy Delaware Univ.	6-55
*MCC-1023-TR-135	Studies in the Reaction of the Phenyl Boranes(thesis)	W.C.Schar Delaware Univ.	6-55
*MCC-1023-TR-136	The Composition of "Sodium Diborane"(thesis)	G.E.Stridde Rensselaer Polytechnic Inst.	6-55
*MCC-1023-TR-137	The Reaction of Boron Trifluoride in Diethyl Ether with the Diammoniate of Diborane and the Reaction of Boron Trifluoride with the Products of a Solution of Sodium and the Diammoniate of Diborane in Liquid Ammonia(thesis)	F.J.Koenig Saint Louis Univ.	2-55
*MCC-1023-TR-138 *Microcards	The system Lithium Aluminohydride-Diethyl Ether-Trimethylamine. The Purification and Isolation of Lithium Aluminohydride (thesis)	P.A.Cowie Same	6-55

*MCC-1023-TR-148	The Reaction of Lithium with the Diammoniate of Diborane and Related Reactions(thesis)	M.D.Adams Saint Louis Univ.	6-55
*MCC-1023-TR-149	Methods of Preparation of Pure Boron. Final Report	V.A.Russell R.Swift A.J.King, et al Syracuse Univ.	6-55
MIT-LNS-APR-June 1, 1954 to May 31,1955	Annual Progress Report; Researches during the Period June 1, 1954 to May 31, 1955	Mass. Inst. of Tech.	
MIT-RLE-TR-292	The Optical Properties of Atomic Vapors Near Resonance. Technical Report No. 292	F.Bitter Same	3-16-55
*NACA-TN-3270	Effect of Dissociation on Thermodynamic Properties of Pure Diatomic Gases	H.W.Woolley National Bureau of Standards	10-15-54
*NBS-1647	Thermal Properties of Fluorine Compounds: Heat Capacity, Entropy, Heat Content and Free Energy Functions of Beryllium Monofluoride in the Ideal Gaseous State	L.Haar C.W.Beckett Same	9-15-52
*NBS-3081	A Summary Report of Investigations of the System Mg/LiNO ₃ , KCl, K ₂ CrO ₄ /Ag.	B.Rubin M.S.Malmberg Same	1-22-54
NBS-3985	A Review of the Properties of Deuterium Compounds. Annual Bibliography--1953.	L.M.Brown A.S.Friedman	9-1-55
NBS-4161	Ideal Gas Thermodynamic Functions of the Isotopic Hydrogen Cyanides	J.C.Bradley L.Haar A.S.Friedman	
*NBS-4284 *Microcards	Purification of Trimethylborane B(CH ₃) ₃ in a Stainless Steel System	G.S.Ross, Sr. D.Enagonio C.Hewitt, et al	8-17-55

*NP-5763	The Determination of Small Amounts of Uranium in Ores and Solutions Using Tributyl Phosphate and Ethyl Acetate.	R.J.Guest Canada, Dept. of Mines and Tech. Surveys. Mines. Branch	5-30-55
*NP-5767	Research on Boron Polymers. Quarterly Progress Report B-3 for June 1, 1955-August 31, 1955	W.L.Ruigh F.C.Gunderloy M.Sedlak, et al Rutgers Univ.	
*NP-5773	Fluorine-Containing Polyethers. Quarterly Report No. 2	O.R.Pierce D.D.Smith R.M.Murch Dow Corning Corp.	9-1-55
*NP-5775	The Application of the Electric Ignition Bomb to the Sugar Carbon-Sodium Peroxide Method for Dissolving Refractory Ores.	J.C.Ingles Canada. Dept. of Mines and Tech. Surveys. Mines Br.	8-22-55
*NP-5780	Development of Inorganic Polymer Systems. Bimonthly Progress Report No. 5 for the Period August 1, 1955 to September 31, 1955	C.F.Gibbs H.Tucker G.Shkapenko, et al Goodrich (B.F.)Co.	
*NP-5783	Status Bulletin No. P16 on Unclassified Titanium Research and Development of Army Ordnance Corps.	Metallurgical Advisory Committee on Titanium	2-55
*NP-5785	The Vapour-Liquid Equilibria of Binary Mixtures of H ₂ , HD, and D ₂ (thesis)	R.B.Newman Bristol Univ. England.	9-21-54
*NP-5786	Fluorescence and Conductivity Phenomena. Quarterly Progress Report No. 1 for February, March, April 1955	H.Kallmann New York Univ.	8-55
*NP-5791 *Microcards	The Study of Properties of Single Crystals for Use as Detectors and Crystal Counters	S.J.Czyzek W.M.Baker R.C.Crane, et al Detroit.Univ.	10-55

*NRL-Memo-209	Preparation and Physical Properties of Borazole	S.H.Smith, Jr. L.B.Eddy	9-15-53
*NYO-3273	The Mechanisms of Some Radiation Induced Gas Reactions and the Chemical Reactions of Electrons. Annual Report for Period March 1, 1954 to January 1, 1955	B.P.Burt Syracuse Univ.	1-1-55
*NYO-3606	Nephelometric Determination of Sulfate Impurity in Reagent-Grade Salts	H.J.Keily L.B.Rogers Mass. Inst. of Tech.	1954
NYO-3919	The Dissociation Pressure and the Nature of Uranium Hydride and the Preparation of Transition Metal Hydrides. Part II. Progress Report	G.G.Libowitz E.J.Goon M.J.Rice, Jr. Tufts Coll.	3-17-55
NYO-3920	Consideration of the Nature, Formation and Density of Hydrides, Parts I, II, and III. Progress Report	R.P.Gibb Jr. G.G.Libowitz Tufts Univ.	5-17-55
*NYO-6105	The Physical Properties of Composite Media	E.H.Kerner Buffalo.Univ.	1-12-55
*NYO-6613	Diffusion Coefficients of Electrolytes in Dilute Aqueous Solution	H.S.Harned Yale Univ.	1-20-55
NYO-6626	Search for Long-Lived Natural Beta Radioactivities (thesis)	H.Selig Carnegie Inst. of Tech.	11-20-54
NYO-7214	Structures of Fluorocarbons, Elementary Boron, and Boron Compounds. Final Report	J.L.Hoard Cornell Univ.	7-1-55
NYO-7477	"Diffusion in Metals" Technical Progress Report	Franklin Inst. Labs.	12-55
ORNL-1720	Effects of Gamma Radiation on Explosives. Final and Summary Report on Army Ordnance Project TA3-5003R, Stability and Reactions of Explosives	H.Rosenwasser	12-6-55
*Microcards			

ORNL-1959	Amine Extraction Processes for Uranium Recovery from Sulfate Liquors. Volume I.	D.J.Crouse K.B.Brown	9-30-55
ORNL-2001	Determination of Alkali Metal and Alkaline-Earth Elements by Flame Photometry; a Bibliography	J.R.French	10-31-55
*PDB-139	Final Purification of Cesium-137. Part II. Pilot Plant Investigation of Amberlite IR-100 Resin	K.G.Heal F.G.Crouch Atomic Energy of Canada Ltd.	12-54
USNRDL-TR-61	Cascade Filtration Theory: A Basis for Studying Suspended Particles	J.M.McCampbell	8-19-55
WIN-29	Studies of the Effects of Various Types of Agitation on the Extraction of Uranium from a sample of Utex Ore	P.N.Thomas	12-1-55

ENGINEERING

AECU-3076	Performance of a Table Structure of an Electromagnetic Vibration Exciter	A.J.Beck Sandia Corp.	3-55
AERE-ED/M-22	A Review of Net Boiling Heat Transfer and Pressure Drop From the Literature	H.A.Roberts Gt. Brit. Atomic Energy Research Estab. Harwell.	8-55
DP-126	Computations on the Performance of a Power Station. I. Automatic Extraction Turbogenerators	R.R.Haefner	10-55
KAPL-1411	Joint AEC-ASME Program on Thermal Stress Fatigue; Final Report	L.F.Coffin, Jr.	9-21-55
LA-1963	Research on a High Current Battery	M.Morgan A.E.Schofield	8-55
*NACA-TN-3212	A Nonlinear Theory of Bending and Buckling of Thin Elastic Shallow Spherical Shells	A.Kaplan Y.C.Fung Calif. Inst. of Tech.	8-54

*Microcards

*NP-5778	Survey of the Nature of the Friction Forces in Molybdenum Disulphide Lubrication. Final Report	V.R.Johnson Midwest Research Inst., Kansas	10-10-55
*PIBAL-252	Creep Buckling	N.J.Hoff Brooklyn Polytechnic Inst.	5-54
*PIBAL-254	Rapid Creep in Structures	N.J.Hoff Same	5-54
*PWAC-133	Determination of Surface Coefficients of Heat Transfer and Pressure Drop and Friction Factor in Internally Finned Tubes with Air Flowing Internally. Final Summary Report for the Period December 1, 1953 to March 31, 1955.	C.H.Coogan, Jr. W.E.Hilding H.H.Samuelson, et al Connecticut Univ.	5-4-55

GEOSCIENCES

*RME-77 (Pt. 1)	Reconnaissance of the Northwest Rim of the Colorado River Basin, Wayne and Garfield Counties, Utah	R.C.Gerhard Grand Junction Operations Office, AEC	1-55
*RME-1049	Preliminary Reconnaissance of Parts of the Shirley Basin; Albany, Carbon and Natrona Counties, Wyoming.	E.W.Smith Div. of Raw Materials AEC.	9-20-54
*RME-1050 Rev.	Results of an Airborne Radiometric Survey in the Canon City Embayment Area, Colorado.	A.L.Nash L.J.Brown Div. of Raw Materials.	6-16-54
*RME-1052	Airborne Reconnaissance in Southwestern Arkansas	R.C.Malan A.L.Nash Same	12-13-54
*RME-1060	Recent High Grade Uraniferous Lignite Discoveries in Harding County, South Dakota	L.R.Burton Same	1-24-55
*RME-2016 (Pt. 1) *Microcards	Uranium Occurrence at the King No. 1 Claim, Gila County, Arizona	G.Weathers Same	8-54

METALLURGY AND CERAMICS

ACCO-63	Development of an Ion Exchange Process for the Recovery of Vanadium	D.C.McLean E.T.Hollis R.A.Eisenhauer	7-30-54
AECD-3663	Quantitative Determination of Rolling and Recrystallization Textures in 600°C-And 300°C-Rolled Uranium Rods	W.P.Chernock P.A.Beck Argonne	8-51
AERE-M/M-99	An Etchant for Niobium Metal	O.Flint Gt. Brit. Atomic Energy Research Estab. Harwell.	7-55
AERE-M/R-1721	The Recrystallization of Rolled Uranium Sheet	P.E.Madsen Same	8-9-55
BMI-1052	The Electrical Resistance of Throium Through the Allotropic Transition	H.W.Deem R.A.Winn	11-18-55
DP-135	A Tramp-Metal Detector	M.H.Goosey	10-55
HW-38982	The Diffusion of Uranium into Aluminum	T.K.Bierlein D.R.Green	10-6-55
HW-39190	Reaction Kinetics of Zirconium and Zircaloy-2 in Dry Air at Elevated Temperatures	L.F.Kendall	9-26-55
ISC-642	Quarterly Summary Research Report in Engineering for April, May, June, 1955		11-23-55
ISC-656	Uranium-Zinc System	P.Chiotti H.H.Klepfer K.J.Gill	10-21-55
KAPL-1403	Effect of Irradiation on Hot-Pressed Boron Carbide	W.D.Valovage	11-15-55
*MAB-97-M	The Processing and Re-Use of Titanium Scrap	National Research Council.Materials Advisory Board	9-16-55
*Microcards			

*MAB-101-M	Columbium-Tantalum	National Research Council Materials Advisory Board	10-21-55
*NACA-845	Quantitative Treatment of the Creep of Metals by Dislocation and Rate-Process Theories	A.S.Nowick E.S.Machlin Aircraft Engine Research Lab., Cleveland	1-1-46
*NACA-RM-E51G12	A Specially Constructed Metallograph for use at Elevated Temperatures	J.E.Jenkins D.R.Buchele R.A.Long Lewis Flight Prop. Lab.	9-11-51
*NP-5766	Cemented Borides. Summary Progress Report for the Period June 1, 1954 to July 31, 1955.	American Electro Metal Corp.	
*NP-5769	Relaxation Behavior of Titanium Alloys. Quarterly Progress Report No. 5	E.A.Sticha Crane Co.Chicago	7-15-55
*NP-5772	A Study of Controlled Atmospheres for the Heat Treatment of Alloys Steels. Final Summary Report (Technical Report No. 5) for June 23, 1952 - September 15, 1955.	F.Kisslinger Illinois Inst. of Tech.	
*NP-5776	Propagation of Elastic and Plastic Deformations in Solids. Final Report for August 28, 1954 to August 27, 1955	C.W.Curtis Lehigh Univ.	
*NP-5777	Development of Titanium Powder Production. Final Report.	A.J.Hatch E.P.Weber A.D.Schwope Clevite Research Center, Cleveland.	9-30-55
*NP-5783	Status Bulletin No. P16 on Unclassified Titanium Research and Development of Army Ordnance Corps.	Met. Advisory Comm. on Titanium	2-55
*NP-5789	Effects of Vibration During Solidification of Castings Final Report for July 1, 1951 to June 30, 1952	W.Rostoker M.J.Berger C.W.Johnson, Ill. Inst.	
*Microcards			

*NP-5790	The Thermal and Electrical Conductivities of Lead-Bismuth Alloys. Technical Report No. 3 on the Investigation of Thermal and Electrical Conductivities of Metals at High Temperatures	J.M.Clifford Lehigh Univ.	6-15-55
*NP-5796	Fundamental Properties of Metal-Ceramics Mixtures at High Temperatures. Final Report for June 1, 1946-January 1, 1955	E.L.Swarts W.B.Crandall Alfred Univ.	
*NP-5798	X-Ray Studies of Order-Disorder in Alloys	B.E.Warren Mass. Inst. of Tech.	1954
NRL-4650	Transformation Studies of Substitute Special Treatment Steels. Part I - Comparison of Transformation Diagrams.	L.F.Spencer R.H.Raring	11-8-55
NYO-4632	Study of Metal-Ceramic Interactions at Elevated Temperatures. Quarterly Progress Report for the Period Ending October 1, 1955	F.H.Norton W.D.Kingery Mass. Inst. of Tech.	10-1-55
NYO-6451	The Measurement of Thermal Conductivity of Refractory Materials. Quarterly Progress Report for the Period Ending October 1, 1955	W.D.Kingery F.H.Norton	10-1-55
NYO-7050	The Structure of Lithium-Magnesium Solid Solution. Part II. Measurements of Diffuse X-Ray Scattering	F.H.Herbstein B.L.Averbach Mass. Inst. of Tech.	
NYO-7053	Local Atomic Displacements in Solid Solutions. Technical Report Number 31	F.H.Herbstein B.S.Borie, Jr. B.L.Averbach Mass. Inst. of Tech.	10-21-55
NYO-7055	Hall Effect in Solid Solutions. Technical Report No. 33	W.F.Flanagan B.L.Averbach Mass. Inst. of Tech	11-18-55
NYO-7173 *Microcards	The Adaptation of New Research Techniques to Mineral Engineering Problems - Progress Report	Same	10-31-55

TID-5212	The Chemistry and Metallurgy of Miscellaneous Materials	L.L.Quill	9-55
WADC-TR-55-205	Oxidation-Resistant Coatings for Molybdenum	J.R.Blanchard Climax Molybdenum Co.	6-55
WAPD-131	The Development and Production of Heavy-Walled Back-extruded Zircaloy-2 Cups	J.G.Goodwin R.W.Tombaugh	10-29-55

PHYSICS

AD-28714	High Power-High Voltage Pulse Transformer Design Criteria and Data. Part I and II. Final Report Covering the period June 1, 1950 through Nov. 30, 1952	P.Fenoglio C.W.Peck F.R.Richardson, et al General Electric Co.	2-1-53
AECD-3666	Control Rod Theory for a Cylindrical Reactor	H.L.Garabedian Westinghouse	8-9-50
AERE-C/R-1715	Fission Product Formation in a Homogeneous Power Reactor	C.J.L.Lock Gt. Brit. Atomic Energy Research Estab.Harwell	6-28-55
AERE-GP/R-1742	Travelling Wave Systems with Different Particle and Wave Velocities	L.B.Mullett Same	9-7-55
*AERE-NP/R-1720	Flux Measurements of Fast Neutrons With a Recoil Counter in the Energy Range of 50-2000 Kev.	W.D.Allen A.T.G.Ferguson Same	6-4-55
AERE-NP/R-1743	A Determination of the Cross-Section for the Reaction $U^{238}(n,\gamma)U^{239}$ as a Function of Neutron Energy in the Range 30-900 KeV	B.Rose Same	6-22-55
AERE-X/R-1771	Non-Linear Effects in Alternating Gradient Synchrotrons	P.A.Sturrock Same	10-55
ANL-5412	Physics Division Quarterly Report for May, June, and July 1954		9-55

*Microcards

CERN 55-25	On Some Symmetry Operations in Quantum Theory	G.Lüders European Organization for Nuclear Research, Geneva	10-15-55
CERN-PS/A.Sch.-2	Orbit Stability in a Synchrotron with Non-Linear Restoring Forces	Same	5-55
CERN-PS/ER-43	On the Influence of Magnetic End Effects on the Orbits	Same	10-55
CU-91	Lifetimes of the π^+ and K^+ -Mesons	G.Harris J.Orear S.Taylor Columbia Univ.	8-55
CU-92	Some Speculations on Heavy Mesons	T.D.Lee J.Orear Same	8-55
EDC-20	Resonances in the Electron Analogue	E.D.Courant Brookhaven National Lab.	7-28-55
KAPL-1414	One-Group Criticality Conditions for a Black Eccentric Control Rod	J.H.Smith J.C.Stewart	10-5-55
LA-1429	Inelastic Cross Sections for Fission Spectrum Neutrons	H.A. Bethe J.R.Beyster R.E.Carter	1-15-55
LJL-7	On obtaining the Phase-Amplitude Representation for the Orbits in the Electron Analogue	L.J.Laslett Brookhaven	7-5-55
MISC 1955-214	A Study of the Injection Process in Betatrons and Synchrotrons (thesis)	D.Lockhart Judd Calif. Inst. of Tech.	1950
MIT-LNS-APR-June 1, 1954 to May 31, 1955	Annual Progress Report; Researches During the Period June 1, 1954 to May 31, 1955	Mass. Inst. of Tech.	

*Microcards

MIT-RLE-QPR-July 15, 1955	Quarterly Progress Report	J.B.Wiesner G.G.Harvey H.J.Zimmermann Mass. Inst. of Tech.	7-15-55
MIT-RLE-QPR-Oct. 15, 1955	Quarterly Progress Report	Same	10-15-55
M.L.-274	Choice of Wavelength and Characteristic Parameters in the Design of Linear Electron Accelerators	E.L.Chu E.L.Ginzton Stanford Univ.	9-55
NEVIS-13	Electrons From Muon Capture	J.Steinberger H.B.Wolfe Columbia Univ.	8-55
NEVIS-14	78 Mev π^+ -Scattering From Lithium	R.Williams J.Rainwater A.Pevsner Columbia Univ.	8-55
*NP-5765	Angular Correlation of Two-Quantum Annihilation in Condensed Materials. Technical Report No. II for Period March 1, 1955-April 30, 1955 on Research and Development on Study of Positronium and Magnetic Moment of the Electron	L.A.Page M.Heinberg O.J.Wallace, et al Pittsburgh Univ.	8-55
*NP-5774	Angular Dependence of the Characteristic Energy Loss of Electrons Passing Through Metal Foils. Technical Report No. 21 for January 1 - June 30, 1955	R.A.Ferrell Maryland. Univ.	9-55
NRL-4643	Counting Pulsed Neutron Fluxes in the Presence of Pulsed X-Rays	A.Brodsky W.J.Willis	11-10-55
*NYO-6140	Silver Fission Induced by 388 Mev. Protons (thesis)	D.H.Greenberg Columbia Univ.	4-19-54
*NYO-7475	Problems Related to Bounded Arrays of Distributed Charges	R.S.Smith F.E.Jaumot, Jr. Franklin Inst. Labs.	10-55
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ORNL-1992	A Direct Comparison of Some Nuclear Properties of U-233 and U-235	J.T.Thomas J.K.Fox D.Callihan	12-12-55
*OSR-TN-55-184	Radiation From a Strong Shock Front in Krypton	E.B.Turner Michigan Univ.	7-55
OSR-TN-55-256	Comparison of Semi-Classical and Quantum Mechanical Coulomb Excitation Integrals for Large L	R.L.Gluckstern J.P.Lazarus G.Breit Yale Univ.	7-29-55
*OSR-TN-55-261	Complex Plane Scanner--An Analog Computer	G.Kranc P.Mauzey J.Wuorinen Columbia Univ.	8-1-55
PR-P-27 (AECL-241)	Progress Report - July 1, to September 30, 1955	Atomic Energy of Canada Ltd.	
TID-5300	Nuclear Level Schemes, A= 40 - A= 92 (Covering the Elements Ca-Zr)	K.Way R.W.King C.L.McGinnis, et al National Research Council	9-55
WASH-292 (Pt. 3, Suppl. 1)	Shielding the APPR-1. Supplement to Reactor Shielding Information Meeting, May 12, 13, 1955, Engineer Research and Development Laboratories, Fort Belvoir, Virginia. Part 3, Suppl. 1.	J.L.Meem F.B.Bairbanks Div. of Reactor Dev. AEC	9-55
<u>REACTOR SCIENCE</u>			
BAC/RL-641	The Watertown Arsenal Research Reactor	C.E.Branyan Bendix Aviation Corp.	4-1-54
DL-20	Reactor Design and Technology Presented at the U.N. Geneva Conference on the Peaceful Uses of Atomic Energy, August 1955	W.B.Lewis Atomic Energy of Canada Ltd.	8-55
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DP-51	A Traveling Monitor for an Exponential Pile	L.M.Johnson	10-55
*IDO-16031	Some Approximations Involved in the Calculations of the MTR Reactivity	H.L.McMurry	10-2-52
*IDO-16155	Flux Distributions, Adjoint Functions and Weighting Factors for the MTR with 5 x 6 Loadings	A.V.Grimaud H.L.McMurry	2-23-54
*IDO-16179	Summary Report on MTR Fuel Assembly Assays From May 1953 to June 1954	S.G.Forbes	7-6-54
*NP-5779	Progress Report No. 30 for August and September 1955	W.J.Posey Mine Safety Appliances Co.	10-11-55

MISCELLANEOUS

AECL-242	Canada's Nuclear Power Development Programme. (Address delivered on the occasion of the official opening of PRONTO URANIUM MINES LIMITED)	W.J.Bennett	10-15-55
ANL-5505	Additions to the Library; Report for the Period November 16-30, 1955; Technical Reports and Books	P.A.Schulze	
ANL-5507	Additions to the Library; Report for the Period December 1-15, 1955; Technical Reports and Books	P.A.Schulze	
ASTIA-U-94	Title Announcement Bulletin No. U-94	Armed Services Tech.Info.Agency	11-18-55
MISC 1955-215	Index of NACA Technical Publications June, 1954 - May, 1955	National Advisory Comm. for Aeronautics	1955
NBS-4302	The Use of Dental X-Ray Film in Atomic Disaster Surveys	M.Ehrlich	12-1-55
*NBS-4303	Evaluation Tests of Three Samples Each of Five Types of Scintillation Survey Meters	R.E.Brueckmann	9-6-55
*Microcards			

NPG-126

Environmental Factors at Proposed Site of Dresden
Generating Station of Commonwealth Edison Company

W.M.Kiefer 6-15-55
M.N.Chiarottino
D.W.Geue, et al
Nuclear Power
Group, Chicago

LIST OF UNCLASSIFIED REPORTS ISSUED BY THE UCRL INFORMATION DIVISION

UCRL-2854 Rev.	Heats of Sublimation of the Elements	L.Brewer	11-55
UCRL-3168	Some Consequences of Charge Independence for Strange-Particle Reactions	D.Feldman	9-8-55
UCRL-3176	Semi-Empirical Correlations of Alpha Decay Rates and Energies	C.J.Gallagher, Jr. J.O.Rasmussen	10-26-55
UCRL-3185	Detection of Azimuthal Symmetry in Quasi-Elastic Double Scattering Experiments (Thesis)	R.E.Donaldson	11-3-55
UCRL-3186	Polarization of the Deuteron in the Reaction $p+p \rightarrow \pi^+ + d$	R.D.Tripp	11-7-55
UCRL-3191	The Metabolism of the Lanthanons in the Rat II. Time Studies of the Tissue Deposition of Intravenously Administered Radioisotopes	P.W.Durbin C.W.Asling M.E.Johnston, et al	11-8-55
UCRL-3196	Optimum Atomic Shape for Bertaut Series	R.E.Jones D.H.Templeton	11-11-55
UCRL-3208	Medical and Health Physics Quarterly Report July, August, September 1955		10-28-55
UCRL-3216	Antiprotons	O.Chamberlain E.Segrè C.Wiegand	11-29-55
UCRL-3224	Antiproton Star Observed in Emulsion	O.Chamberlain W.W.Chupp G.Goldharber, et al	12-1-55

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UCRL-3226

The Ratio of K^- Mass to K^+ Mass

F.H.Webb
W.W.Chupp
G.Goldhaber
S.Goldhaber

12-5-55

UCRL-3232

List of Unclassified Reports Received and Issued in the
UCRL Information Division for Period Covering December 1-13, 1955

UCRL-3235

Selection Rules for Decays - Lecture 3

C.Goebel

UCRL-3241

Selection Rules for Decays - Lecture 4

C.Goebel

12-27-55

UCRL-3245
Abstract

Improved Time Response in Scintillation Counting

Q.A.Kerns

12-28-55

UCRL-3246
Abstract

Photomultiplier Counters in High-Energy Physics

B.J.Moyer

12-28-55