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APPENDIX A. THE GENESIS AND ORGANIZATION OF THE AMES PROJECT

The Einstein Letter to Roosevelt

Albert Einstein
Old Grove Road.
Nassau Point
Peconic, Long Island

August 2nd. 1939

F. D. Roosevelt,
President of the United States,
White House
Washington, D.C.

Sir:

Some recent work by E.Fermi and L. Szilard, which has been communicated to me in manuscript, leads me to expect that the element uranium may be turned into a new and important source of energy in the immediate future. Certain aspects of the situation which has arisen seem to call for watchfulness and, if necessary, quick action on the part of the Administration. I believe therefore that it is my duty to bring to your attention the following facts and recommendations:

In the course of the last four months it has been made probable - through the work of Joliet in France as well as Fermi and Szilard in America - that it may become possible to set up a nuclear chain reaction in a large mass of uranium,by which vast amounts of power and large quantities of new radium-like elements would be generated. Now it appears almost certain that this could be achieved in the immediate future.

This new phenomenon would also lead to the construction of bombs, and it is conceivable - though much less certain - that extremely powerful bombs of a new type may thus be constructed. A single bomb of this type, carried by boat and exploded in a port, might very well destroy the whole port together with some of the surrounding territory. However, such bombs might very well prove to be too heavy for transportation by air.

The United States has only very poor ores of uranium in moderate quantities. There is some good ore in Canada and the former Czechoslovakia, while the most important source of uranium is Belgian Congo.

In view of this situation you may think it desirable to have some permanent contact maintained between the Administration and the group of physicists working on chain reactions in America. One possible way of achieving this might be for you to entrust with this task a person who has your confidence and who could perhaps serve in an inofficial capacity. His task might comprise the following:

a) to approach Government Departments, keep them informed of the further development, and put forward recommendations for Government action, giving particular attention to the problem of securing a supply of uranium ore for the United States;

b) to speed up the experimental work, which is at present being carried on within the limits of the budgets of University laboratories, by providing funds, if such funds be required, through his contacts with private persons who are willing to make contributions for this cause, and perhaps also by obtaining the co-operation of industrial laboratories which have the necessary equipment.

I understand that Germany has actually stopped the sale of uranium from the Czechoslovakian mines which she has taken over. That she should have taken such early action might perhaps be understood on the ground that the son of the German Under-Secretary of State, von Weizäcker, is attached to the Kaiser-Wilhelm-Institut in Berlin where some of the American work on uranium is now being repeated.

Yours very truly,

(Albert Einstein)[388]

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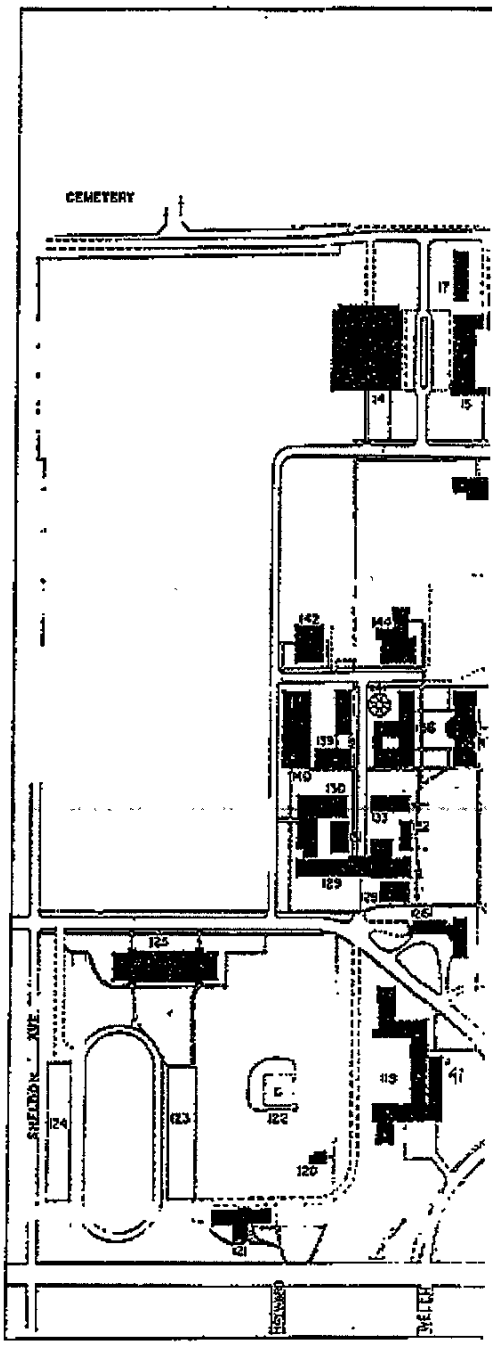
[388] Michael B. Stoff, Jonathan F. Fanton, and R. Hal Williams, *The Manhattan Project: A Documentary Introduction to the Atomic Age* (Philadelphia, PA: Temple University Press, 1991), 18-19. (Original in Franklin D. Roosevelt Library at Hyde Park, New York.)

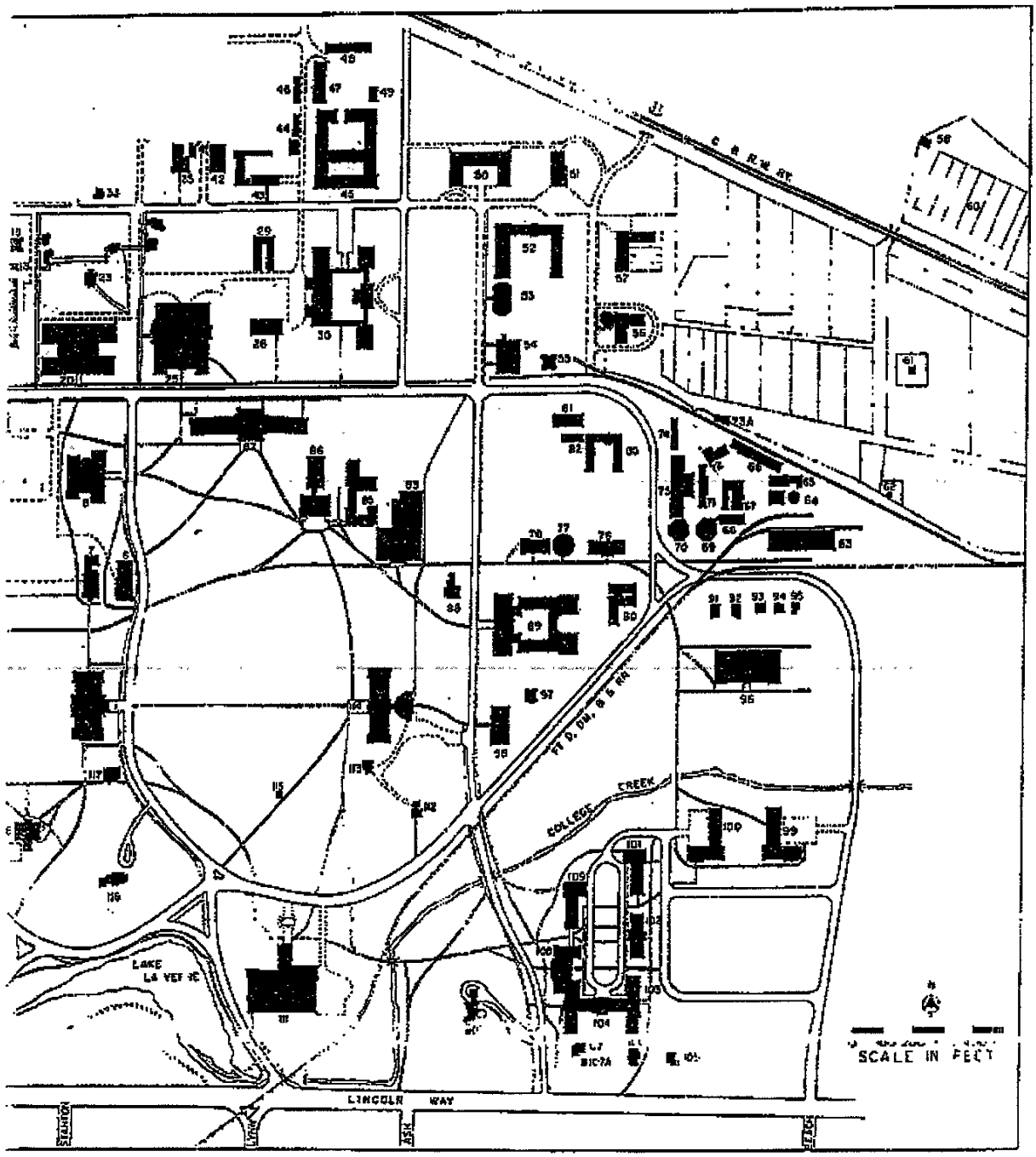
APPENDIX B. SCIENCE AND TECHNOLOGY IN THE AMES PROJECT, 1942-45

Campus Map, 1945



Important Buildings on the Campus

Agricultual Engineering	15
Agriculture Hall	114
Armory	14
Beardshear Hall	1
Botany Hall	86
Chemistry Building	20
Collegiate Press Building	76
Dairy Industry	89
Engineering Hall	137
Hospital	126
Landscape Architecture	78
Home Economics	87
Library	8
Physical Chemistry Annex I (Little Ankeny)	90
Physical Chemistry Annex II	67
Physical Plant	63
Physics Building	28
Veterinary Quadrangle	30
Women's Gym	96


LINCOLN WAY
COLLEGE CREEK
LAKE LA VERNE
SCALE IN FEET

A Pictorial History of the Ames Project[389]

Figure B1. Physical Chemistry Annex (Little Ankeny) north view.

Figure B2. South view of Little Ankeny.

[389]The Ames Laboratory in Ames, Iowa, provided the photographs on this and the following pages from its historical photographic archives.

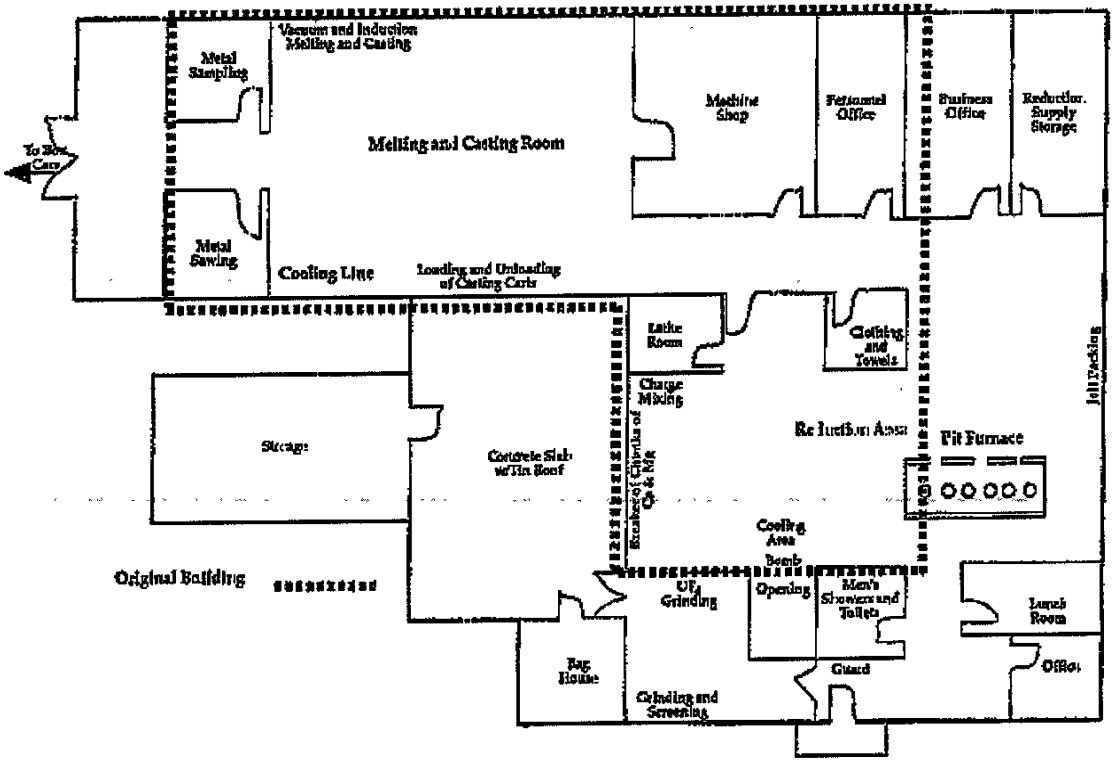


Figure B3. Floor plan of Little Ankeny production facility for uranium and thorium.

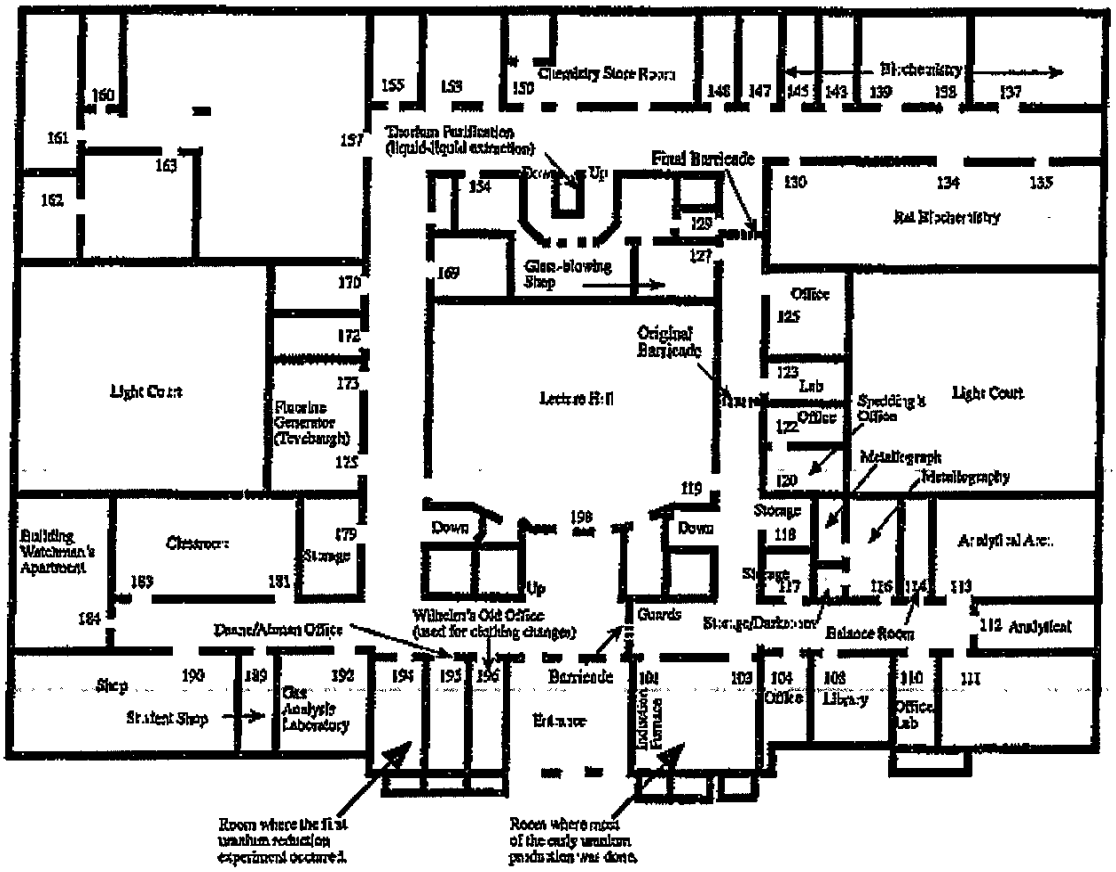


Figure B4. First floor plan of the Chemistry Building where the research and development work were carried out. Included are: the barricade on the east hallway and Room 101/103 where the early reduction experiments for the University of Chicago were completed. (The labeling for these rooms was provided by Norman Carlson, David Peterson, and Harry Svec, former participants on the project.)

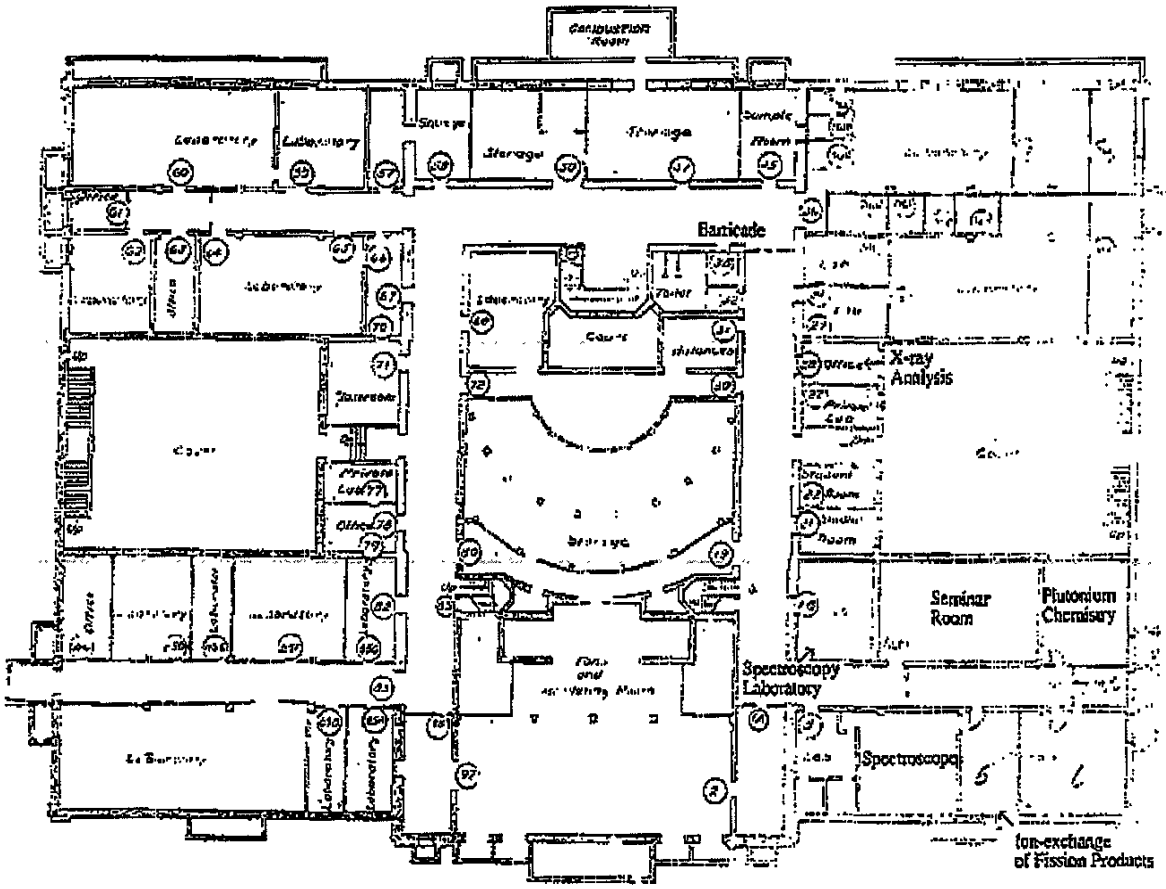


Figure B5. Basement plan of the Chemistry Building where some of the research and development work were carried out. Included in the basement was the famous seminar room where the Speddinars occurred.

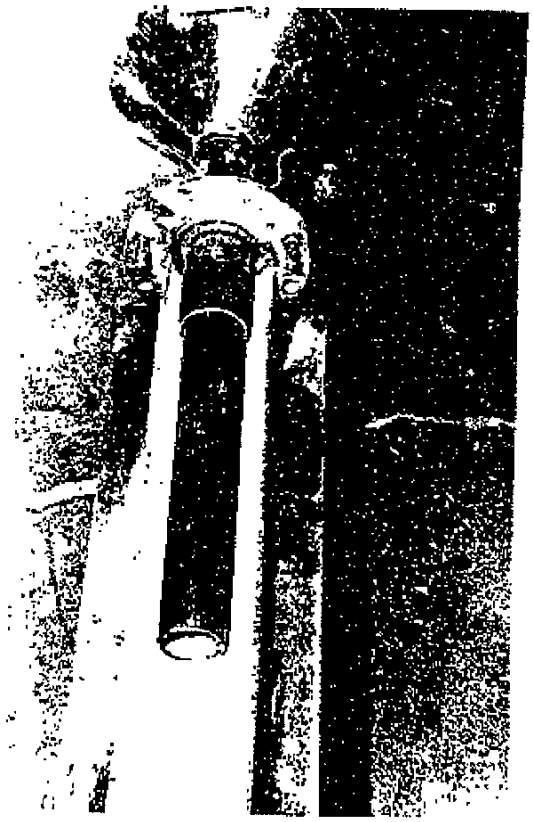
a.

Figure B6. The uranium metallic reduction process.

a. Several bombs of various sizes.
b. Cutaway view of a bomb retort after packing, but before putting in charge.
c. Using the Sprout Waldon Mill to grind calcium for the charge.
d. Lining the bomb retort with electrically-fused dolomitic oxide.
e. Bolting the flange on top of the prepared charge and liner.
f. Lowering the bomb into the reduction furnace.

d.

b.



c.

e.

f.

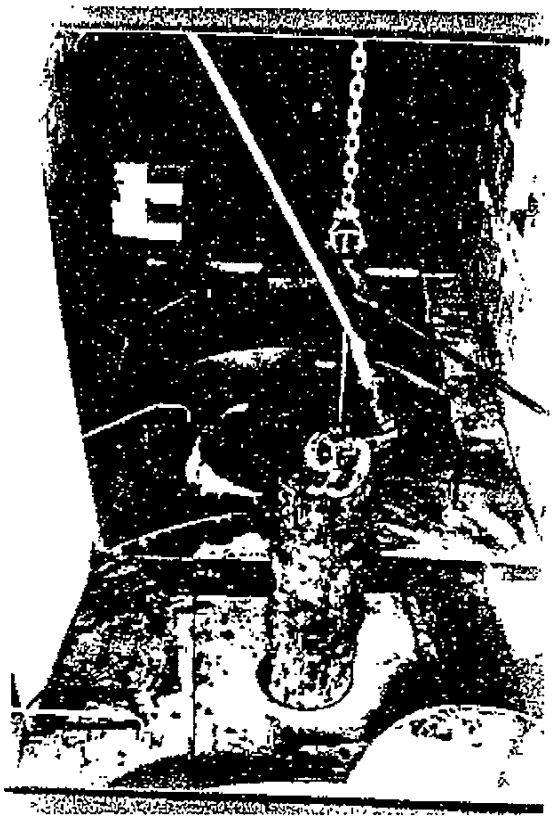


Figure B7. The uranium casting process.

a. A marked uranium biscuit before casting.

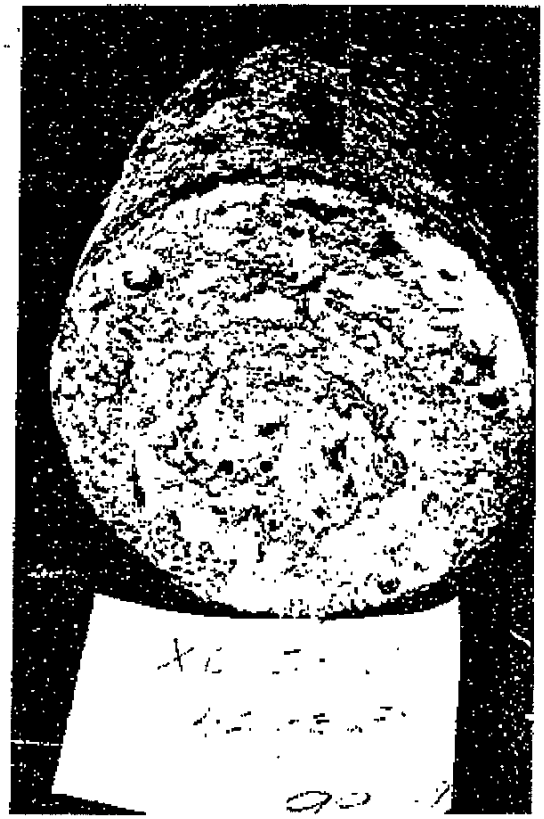
b. An induction furnace used to melt uranium biscuits into ingots.

c. A uranium ingot on the scale after casting.

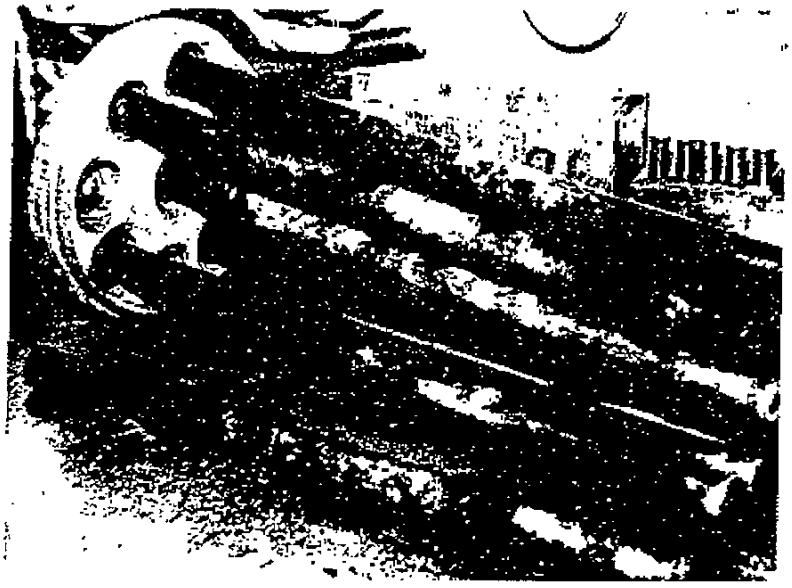
d. Uranium ingots in the shape of rods or "hot dogs."

e. Cartoon about the fires in the reduction and casting processes.

f. Cartoon about keeping staff on the Ames Project.



a.



d.

e.

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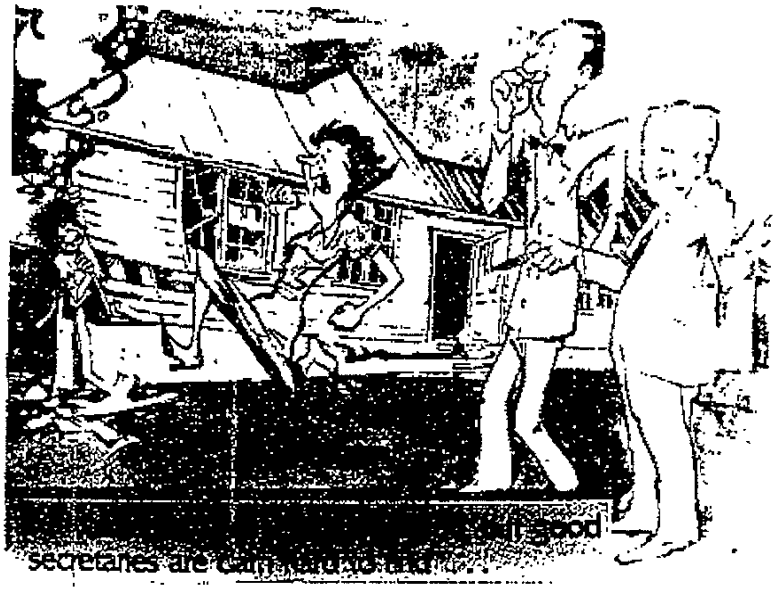


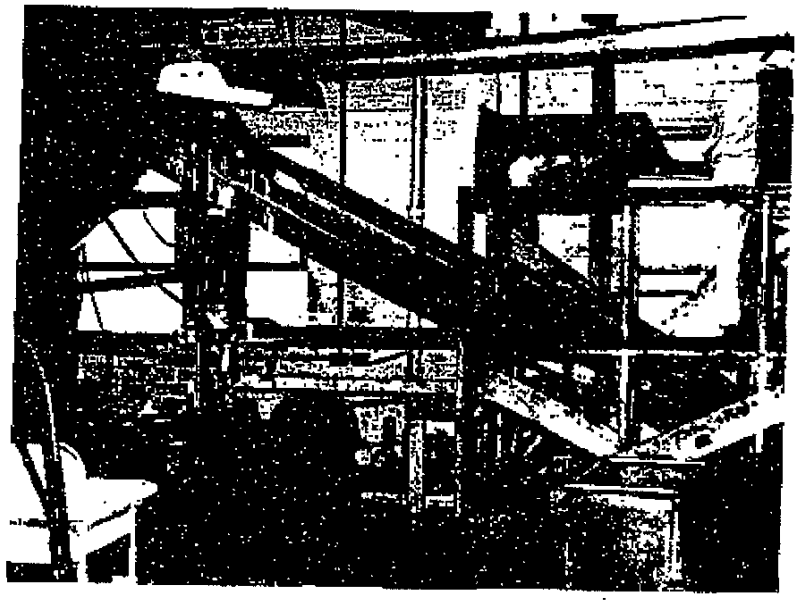


Figure B8. The uranium turnings recovery process in Physical Chemistry Annex II.

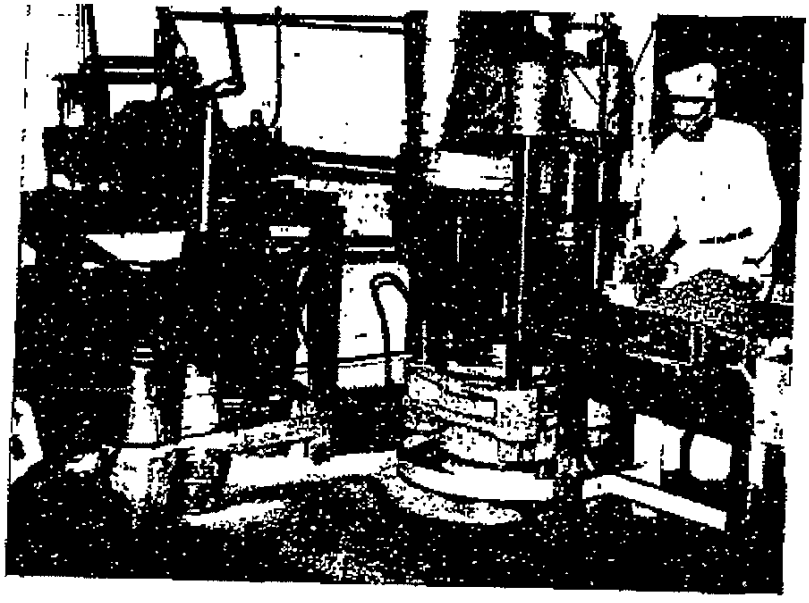


Figure B9. Pressing the uranium turnings into briquets.

Figure B10. Compressed uranium briquets from turnings process.

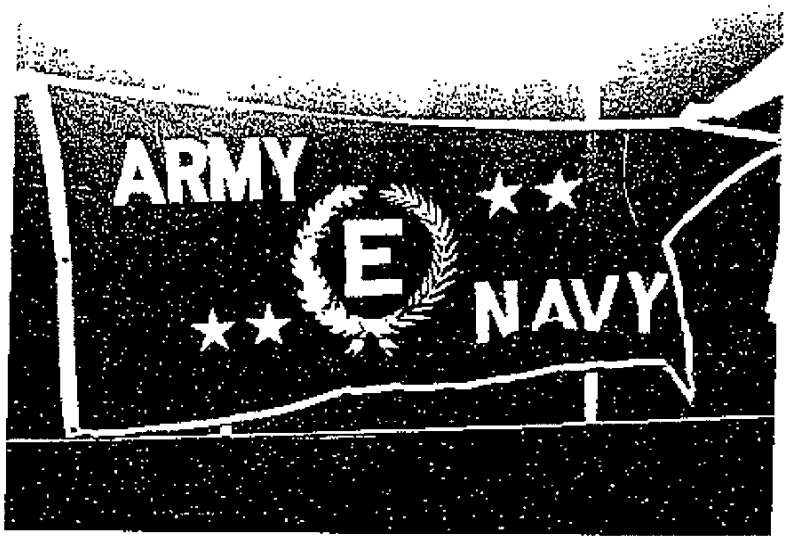


Figure B11. The Army/Navy E Flag represented to Iowa State College for excellence in the critical wartime materials production from 1942-1945.

Figure B12. Group Leaders in charge of the Ames Project. From left to right are: Harley A. Wilhelm, Adrian Daane, Amos Newton, Adolf Voigt, Wayne Keller, C F Gray, Frank Spedding, Robert Rundle, and James Warf.

Figure B13. Tearing down Little Ankeny in 1953, south view. The building was used shortly after World War II for the production of thorium and for other particularly dirty processes. By 1953, it had outlived its usefulness and as Harley A. Wilhelm succinctly put it, "it had become more reactive than active."

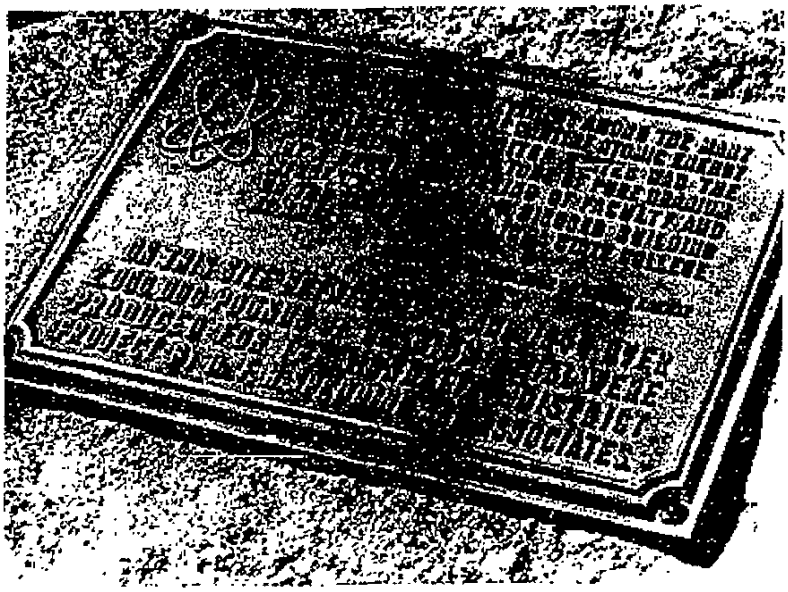


Figure B14. Stone and plaque that were placed on the Little Ankeny site.

C. J. 8/1/42

Preparation of Metallic U by Reduction of UF_4 by metallic calcium.

UF_4 was reduced by metallic calcium in vacuo in a resistance furnace.

The stoichiometrical quantities are 314 g. fluoride to 80.2 g. Ca., or 3.92 g. fluoride to 1 g. Ca.

A 10 % excess of metal was used, or 3.92 g. fluoride per 2 g. Ca.

Since the calcium used was found to be only 87 % active metal, .87 / 3.92/2 or 170 g. fluoride / 100 g. calcium was used.

The calcium was cut up in a Wiley mill and sieved and that portion which was 20 - 40 mesh was used. By the displacement of H_2 from dil. acid this metal was found to be 87 % free metal.

The fluoride and calcium were ground together in a porcelain mill and placed in an iron pipe or bomb. The bomb and charge were placed with proper packing in a quartz tube and the whole evacuated. A thermocouple was placed between the quartz tube and the furnace wall. The furnace was heated for 10 hrs. at 1250°

Figure B15. Wayne Keller's research notebook pages describing the successful uranium reduction experiment with calcium and uranium tetrafluoride, August 3, 1942.

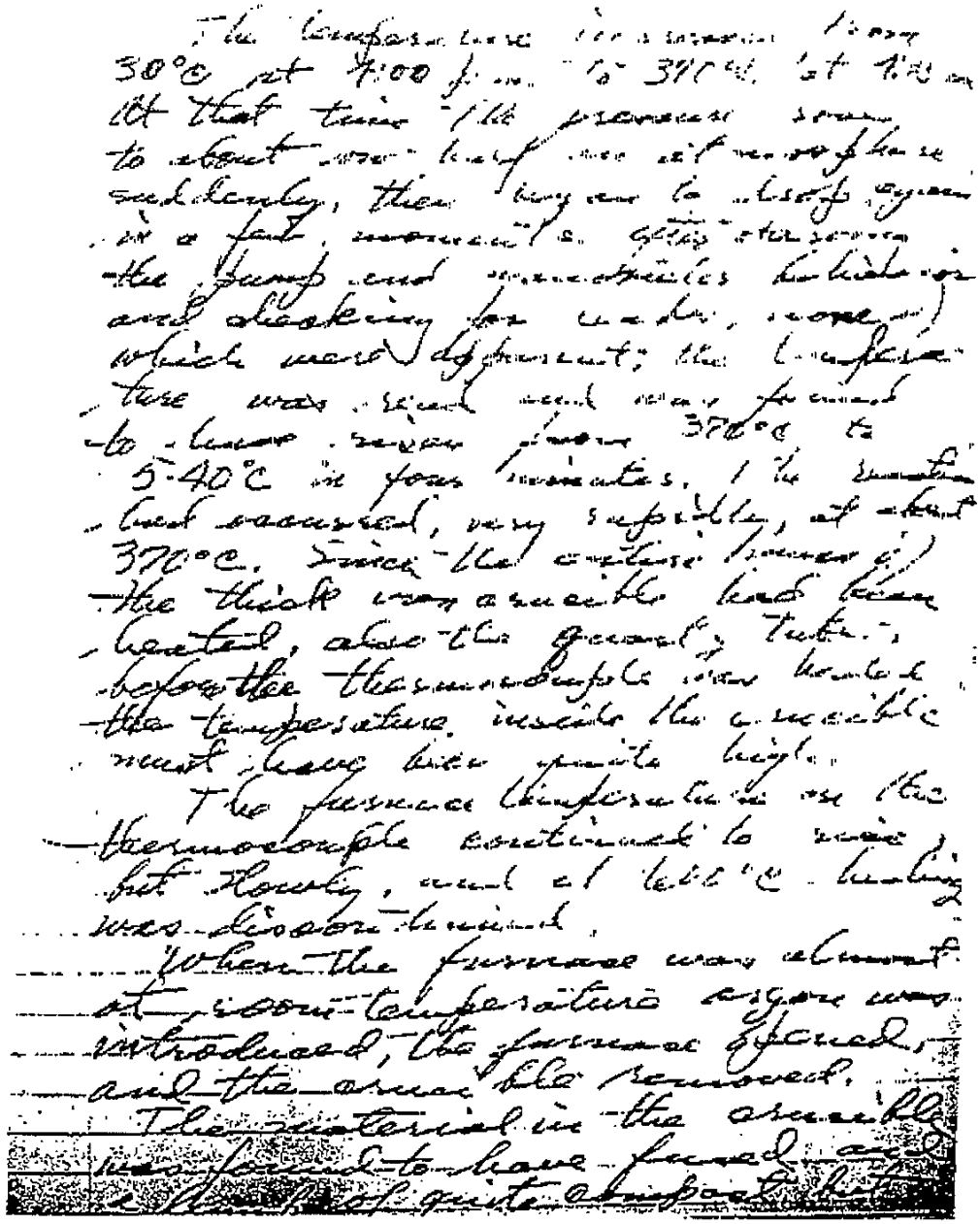


Figure B15. (Continued).

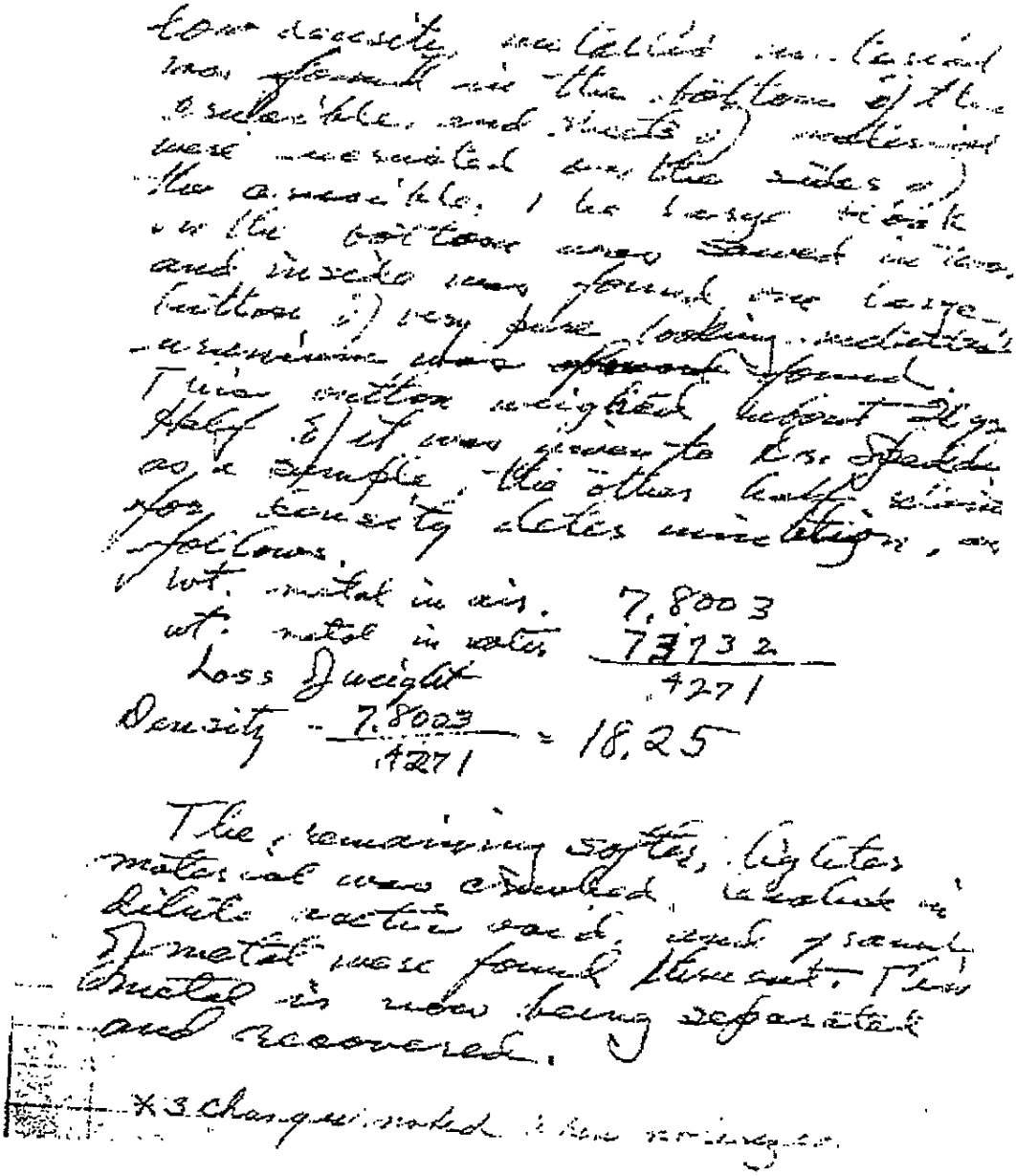


Figure B15. (Continued).

The Chicago Pile Experiment, December 2, 1942

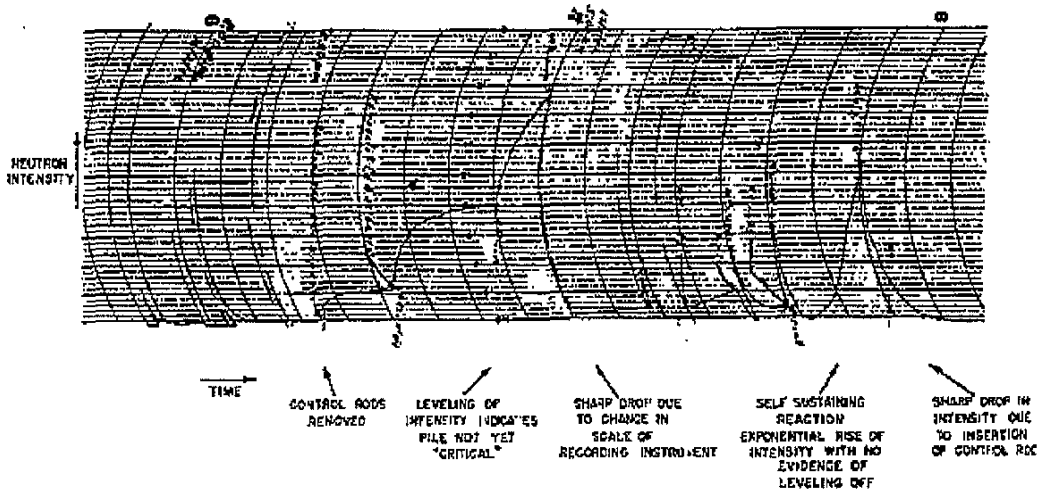


Figure B17. The galvanometer showing the start-up of the first self-sustaining nuclear chain reaction, December 2, 1942.

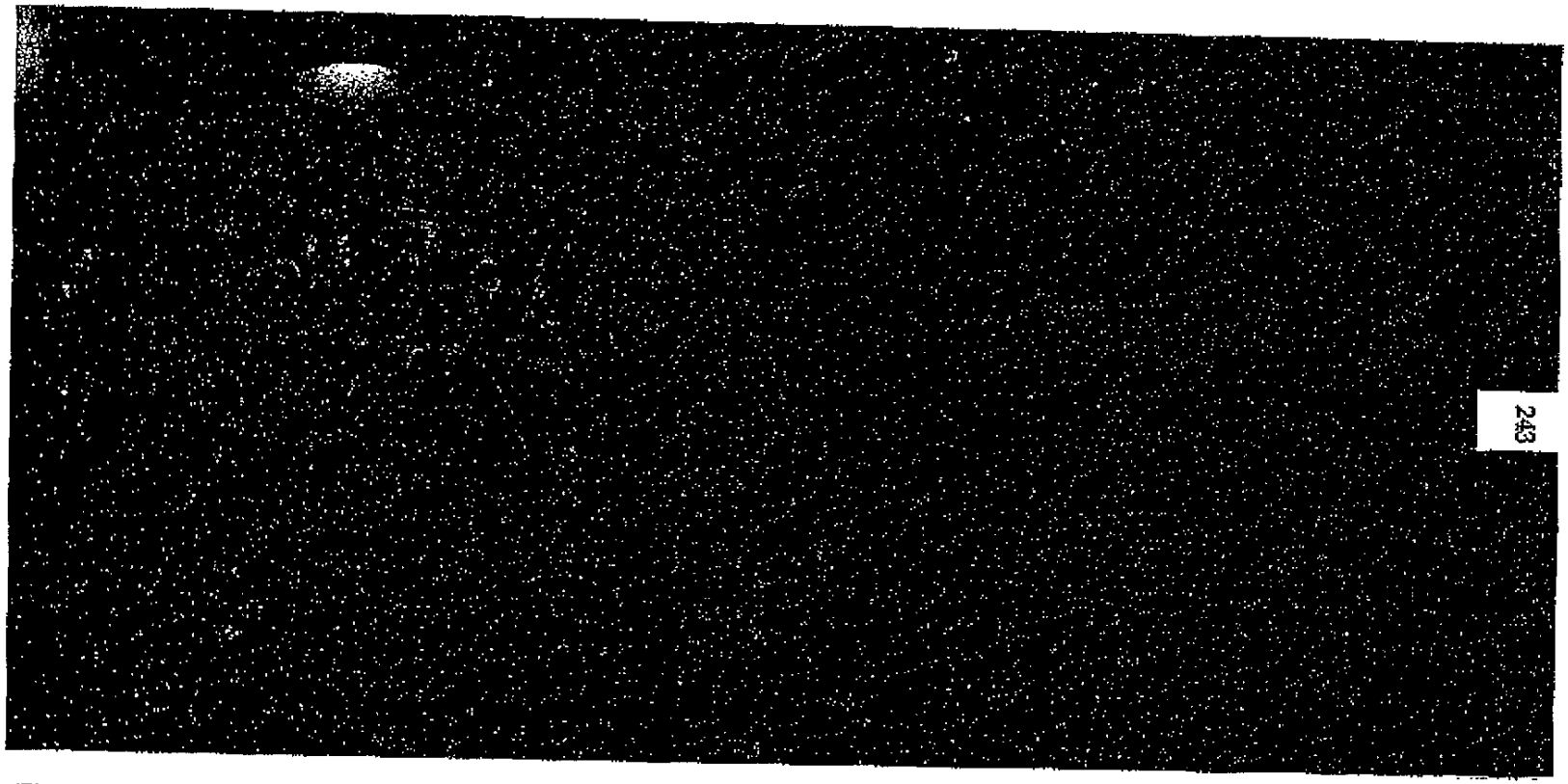
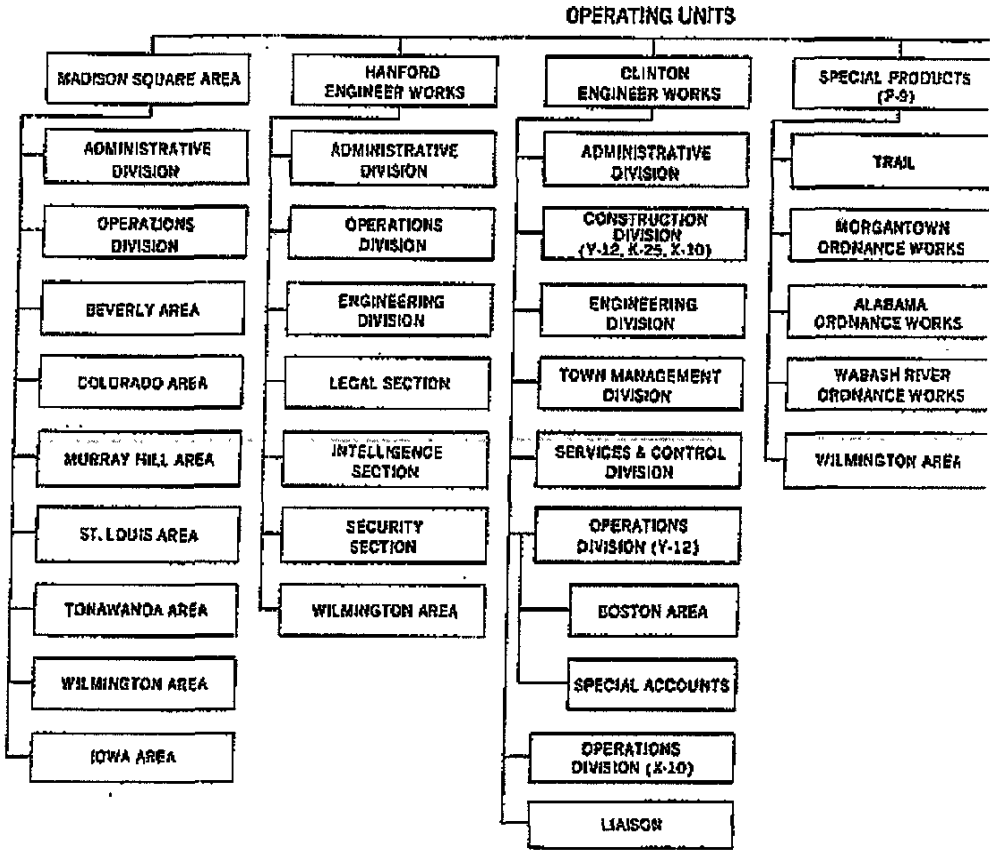


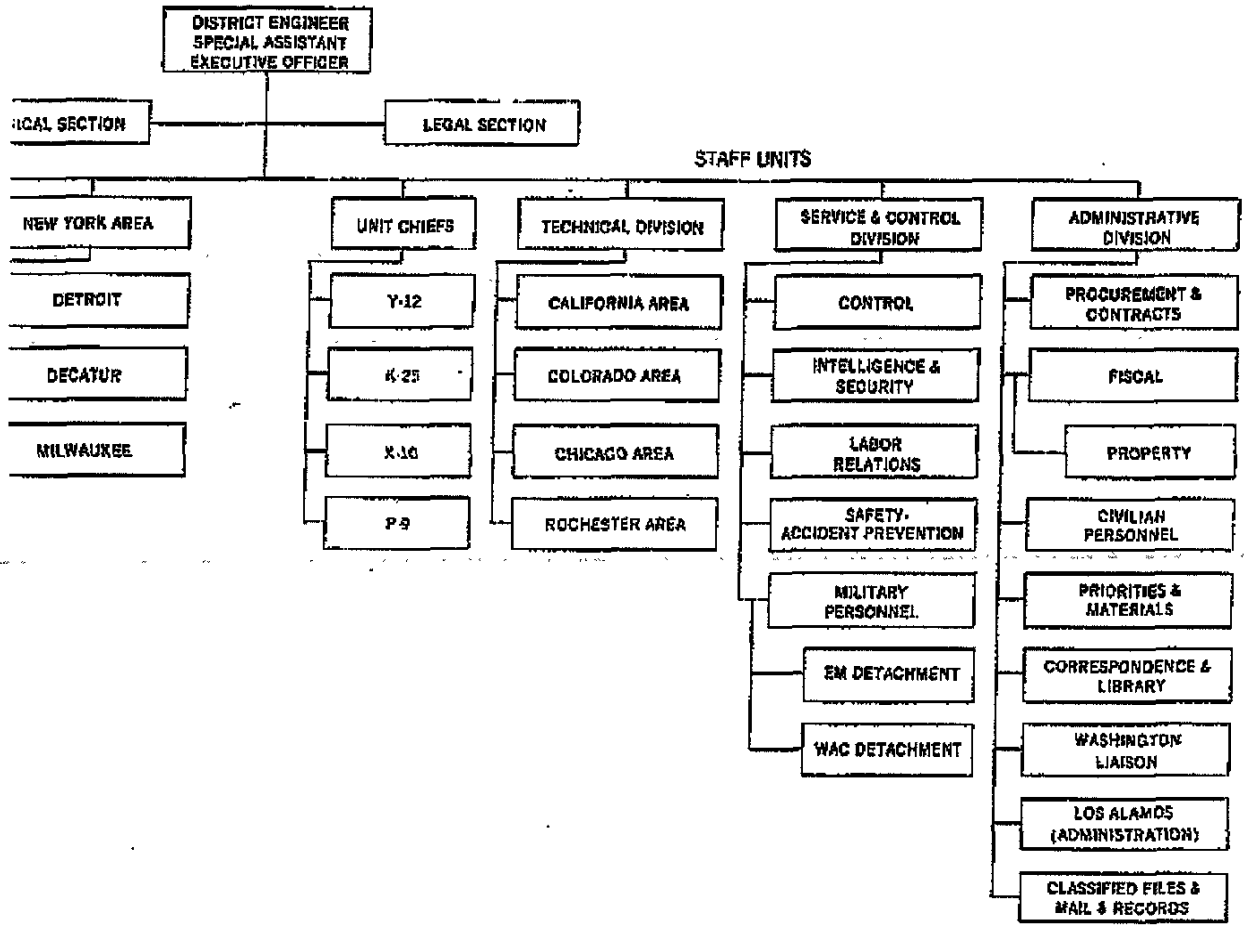
Figure B16. An artist's rendition of the chain reaction experiment on December 2, 1942. Frank Spedding is the man leaning forward in the middle of the row of standing people (fifth from the left).

APPENDIX C. THE ACADEMIC VS. THE MILITARY STYLE OF MANAGING RESEARCH

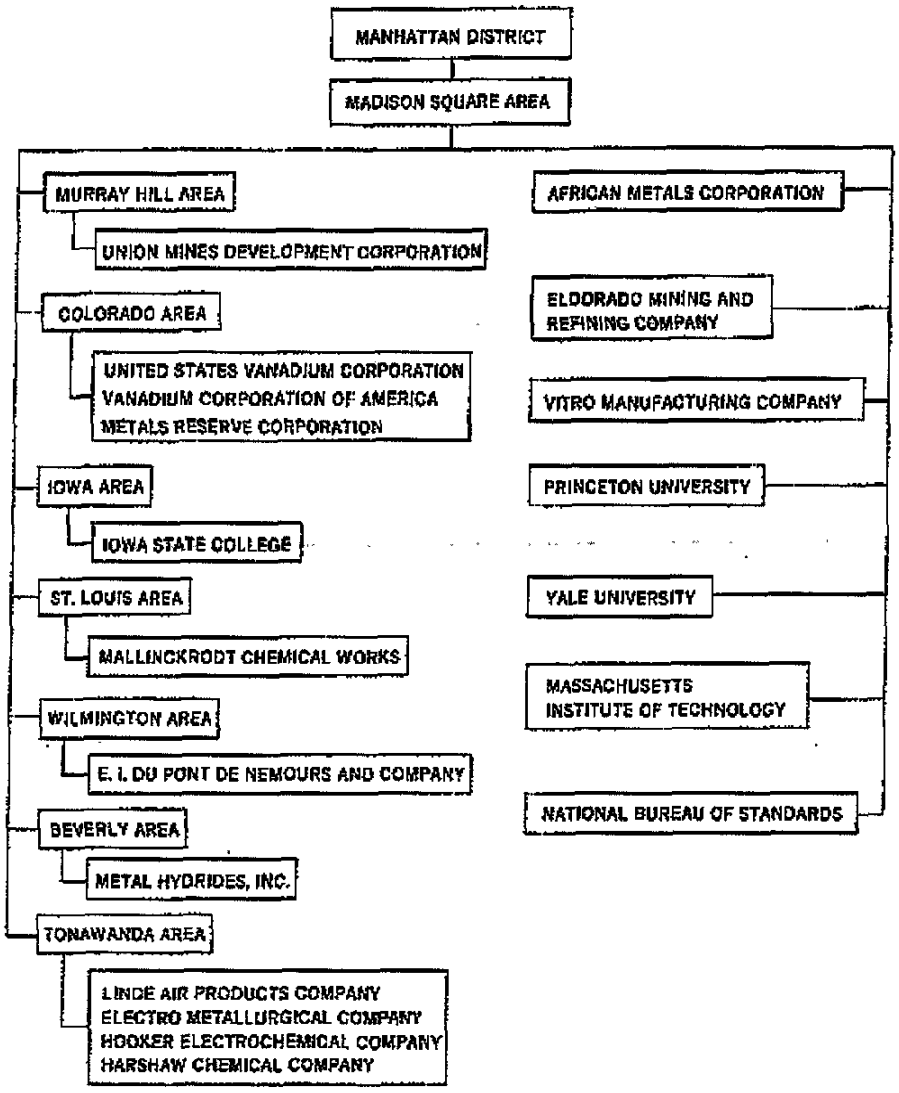
Manhattan District Organization Chart, 1943[390]



[390]Iowa State College was in the Iowa Area, one of the operating units of the Madison Square Area. (Jones, 90a.)


DISTRICT ENGINEER
SPECIAL ASSISTANT
EXECUTIVE OFFICER
ICAL SECTION
LEGAL SECTION
STAFF UNITS
NEW YORK AREA
DETROIT
DECATUR
MILWAUKEE
UNIT CHIEFS
Y-12
K-25
X-10
P-9
TECHNICAL DIVISION
CALIFORNIA AREA
COLORADO AREA
CHICAGO AREA
ROCHESTER AREA
SERVICE & CONTROL DIVISION
CONTROL
INTELLIGENCE & SECURITY
LABOR RELATIONS
SAFETY-ACCIDENT PREVENTION
MILITARY PERSONNEL
EM DETACHMENT
WAC DETACHMENT
ADMINISTRATIVE DIVISION
PROCUREMENT & CONTRACTS
FISCAL
PROPERTY
CIVILIAN PERSONNEL
PRIORITIES & MATERIALS
CORRESPONDENCE & LIBRARY
WASHINGTON LIAISON
LOS ALAMOS (ADMINISTRATION)
CLASSIFIED FILES & MAIL & RECORDS

Madison Square Area Feed Materials Network, 1945



APPENDIX D. SECURITY REGULATIONS AND REQUIREMENTS

120644

I, Harley A. Wilhelm, do solemnly swear that I will not by any means divulge nor disclose any secret or confidential information that I may obtain or acquire by reason of my connection with the National Defense Research Committee unless authorized to do so by the Chairman or a member of that Committee.

Harley A. Wilhelm

Subscribed and sworn to before me this

2nd day of February, A.D. 1942

at Ames, Iowa
(City or Place) (State)

(SEAL)

Notary Public

COMMISSION EXPIRES JULY 4, 1942

Note.- If the oath is taken before a Notary Public the date of expiration of his commission should be shown.

Figure D1. Oath of allegiance for Harley A, Wilhelm.

The University of Chicago

Metallurgical Laboratory

EXT. 3349

RESTRICTED

December 9, 1943

The urgency of delivery of this document is such that it will not reach the addressee in time by the next available official courier. The originator, therefore, authorizes the transmission of this document by regular mail within the continental limits of the United States.

Dr. F. H. Spedding
Department of Chemistry
Iowa State College
Ames, Iowa

Dear Dr. Spedding:

As you know, the program for the next Policy meeting of the Council has been changed from Wednesday to Monday, December 20th, and as a result the meeting with Dr. Thomas will be held on Monday afternoon, contrary to what was planned last month. Do you or your men have any contribution to make at the Thomas meeting, and if so, who will make it? We also need to know whether somebody from your group will speak in the Chemistry Division Seminar for Monday evening, and how much time would you like to reserve. For the Information meeting on Tuesday morning, I have reserved twenty minutes for you. Is that all right?

I hope that you had a good trip home and that you have recovered from your attack of the flu.

Best regards,

Very sincerely yours,

James Franck

James Franck

RESTRICTED

Figure D2. Sample classified document with appropriate markings.

STANDARD FORM NO. 1101a

U. S. GOVERNMENT BILL OF LADING
MEMORANDUM COPY

NO. WW- 5888806

CAR INITIALS AND NO.
CMO 33424

NAME OF INITIAL TRANSPORTATION COMPANY
Ft. Dodge, Des Moines & Southern Railroad

STOP THIS CAR AT — FOR

DATE B/L ISSUED
8 March 1945

RECEIVED BY THE TRANSPORTATION COMPANY NAMED ABOVE, SUBJECT TO CONDITIONS NAMED ON THE REVERSE HEREOF, THE PUBLIC PROPERTY HEREINAFTER DESCRIBED, IN APPARENT GOOD ORDER AND CONDITION (CONTENTS AND VALUE UNKNOWN), TO BE FORWARDED TO DESTINATION BY THE SAID COMPANY AND CONNECTING LINES, THERE TO BE DELIVERED IN LIKE GOOD ORDER AND CONDITION TO SAID CONSIGNEE.

FROM (SHIPPING POINT)
Ames, Iowa

FROM (FULL NAME OF SHIPPER)
The Area Engineer, C. E. Engineer Office, Ames, Iowa

MARKS
The Area Engineer
Hanford Engineer Works
Hanford, Washington

CONSIGNEE
The Area Engineer
Hanford Engineer Works
Hanford, Washington

DESTINATION
Hanford, Washington

VIA
Ames, Iowa, to Hanford, Washington; Ft. Dodge, Des Moines & Southern Railroad, Huxley, Chicago, Milwaukee, St. Paul & Pacific

CHARGES TO BE BILLED TO
FINANCE OFFICER, U. S. ARMY, Washington, D. C. War Department

APPROPRIATION CHARGEABLE
215/2409 1945

ISSUING OFFICE
U. S. Engineer Office, Ames, Iowa

NAME AND TITLE OF ISSUING OFFICER
E. H. Velten, 1st Lt., C. E.

PACKAGES NO.	KIND	DESCRIPTION OF ARTICLES	NUMBER OF PACKAGES	WEIGHTS
		MILITARY		
177	boxes	Chemical XOITE		
955	each	Buckets		
4	each	Boxes	Actual	
4	each	Tongs	Gross	
4	each	Hooks	Weight	39,718
		U. S. GOVERNMENT PROPERTY		
		Armed guard service furnished by the Government.		
		Placards not necessary	Seal Nos.	A-149898 A-149899
		Shippers weigh load & count		

Transportation from Ames to Hanford, Wash., required for Mr. Kamm, Guard, Chicago Br. Off Int. and Security. The fare of attendant, when not carried free under carrier's tariff, to be paid for in connection with settlement of freight charge on the bill of lading.

CERTIFICATE OF ISSUING OFFICER

SIGNATURE OF ISSUING OFFICER
E. H. Velten, 1st Lt., C. E.

NAME OF TRANSPORTATION COMPANY
Fort Dodge, Des Moines & Southern Ry.

DATE OF RECEIPT BY COMPANY
8 March 1945

SIGNATURE OF AGENT

MEMORANDUM COPY

5

COPY FOR CHIEF OF TRANSPORTATION, WAR DEPARTMENT

MAR 28 1945

Figure D3. Sample bill of lading for a shipment between Iowa State and Hanford.

APPENDIX F. WORKER HEALTH AND SAFETY

Report of Thelma Bruce 3. Jan. 4-9, 1943

t

— — — — 1.023 trace sugar

— — — — 1.024

r

— — — — 1.015

— — — — qns. trace sugar
faint trace albumin Micro: few mucus shreds, 2-4 wbc 1 hpf

— — — — qns. trace sugar

— — — — 1.013
trace albumin Micro: occ. wbc. Amorphous material

— — — — 1.025

— — — — 1.020 trace sugar.
faint trace albumin. Micro: few mucus shreds, very occasional w.b.c

84% 4,760,000 11,300 57P 38L 2M 2E 1B 1.034 Red. sugar

94% 5,480,000 9,400 66P 34L 1.022

— — — — 1.029 sugar reduction

— — — — 1.021 albumin
micro: few w.b.c. & r.b.c.

— — — — 1.020
faint trace albumin Micro: v. occ. w.b.c.

84% 4,580,000 10,550 66P 26L 6M 1E 1B 1.021 trace sugar

Figure 51. Excerpt from a typical Iowa State College health report, January 1943.

The University of Chicago
Metallurgical Laboratory

June 1st, 1944

TO: DR. GRANT

SUBJECT: REPORT OF STUDIES OF PERSONNEL AT AMES, IOWA

On April 27 four members of our group visited the Tuballoy Production Plant at Ames, Iowa. Blood and urine specimens were obtained on 19 workers in the plant. Urine specimens only were obtained on an additional four individuals.

Studies on these specimens included tests for liver and kidney function as well as other non-specific tests which may be correlated with dearranged metabolism. The results of these studies are given in the table below. For purposes of comparison the personnel has been divided into three groups depending upon their exposure to Tuballoy, chiefly as the fluoride. This classification is based on information given us by Mr. Gladrow & others and confirmed by personal interviews with the individuals concerned.

1. HEAVY EXPOSURE	BLOOD STUDIES				URINE STUDIES		
Name	Sulfur	cc*	cg*#	Proto	Copro,	Pigments***	Urinalys
1.	2	0	1	2	0	0-0-2-	0
2.	qns	0	1	4	0	0-0-0-0	1 suga
3.	4	0	0	4	4	2-1-1-0	0
4.	3	0	1	0	3	0-1-0-0	0
2. MODERATE EXPOSURE							
1.	4	1	1	1	2	1-0-1-1	0
2.	2	0	0	1	3	0-1-1-1	0
3.	2	0	1	1	4	0-1-1-0	0
4.	2	0	1	2	0	0-0-1-0	0
5.	1	2	1	1	0	0-0-0-0	0
6.	0	0	0	1	0	1-0-0-0	0
7.	3	0	1	0	0	0-0-1-0	0
8.	2	2	1	0	0	0-0-0-0	0
9.	qns	0	1	1	0	0-0-0-0	0

Figure F2. Figure F2. Report on research studies of Ames personnel, June 1, 1944

3. RELATIVELY SLIGHT EXPOSURE

	BLOOD STUDIES				URINE STUDIES		
	Sulfur	cc*	cg**	Proto	Copro,	Pigments,***	Urinalysis
1.	2	0	1	0	1	0-1-2-1	0
2.	0	0	0	0	0	0-0-0-0	0
3.	0	0	1	0	0	0-0-0-0	0
4.	1	0	1	0	1	0-0-0-0	0
*****	0	2	1	0	0	0-1-0-0	0

* Cephalin cholesterol ** Colloidal gold *** Absorption at 400 mu and 520 mu Urorosein band and 510 mu band

**** Heavy exposure until about 4 months ago, practically none since.
***** Works away from plant. Radiation chief exposure.

The above scoring system may be interpreted as follows:
0= normal range
1 plus = border line range
2 plus to 4 plus = increasingly positive reaction

CONCLUSIONS:

In general, fortunately, the tests indicate less abnormality than I would have expected from the amount of exposure these men are getting. The one exception to this statement is the almost consistent elevation of serum sulfur which is indicative of probably slight kidney dysfunction. Liver function tests are almost uniformally normal. In only the heaviest exposure group is there significant change in porphyrin metabolism.

Sincerely yours,

3S:SS

SAMUEL SCHWARTZ, M.D.

Figure F2. (Continued).

March 26, 1945

Dear Mr.

As you know, the Health Division of the Chemistry Project was interested in checking up on your health while you were working at the plant. Even though you have left, we would like to continue with this. We were wondering if you would be willing to give us semi-weekly urine samples for the following month. The bottles would be left for you at your house, and would be picked up by our driver.

If you are willing to cooperate would you either call me at extension 381 or fill out the enclosed card and mail it to me. It is of importance to us here on the project that you cooperate.

Sincerely yours,

Elroy M. Gladrow

By authority of F. H. Spedding

EG/esp

Figure F3. Typical letter to a person who has left the project, asking for continued testing.

APPENDIX G. THE IMPACT OF THE AMES PROJECT UPON IOWA STATE COLLEGE

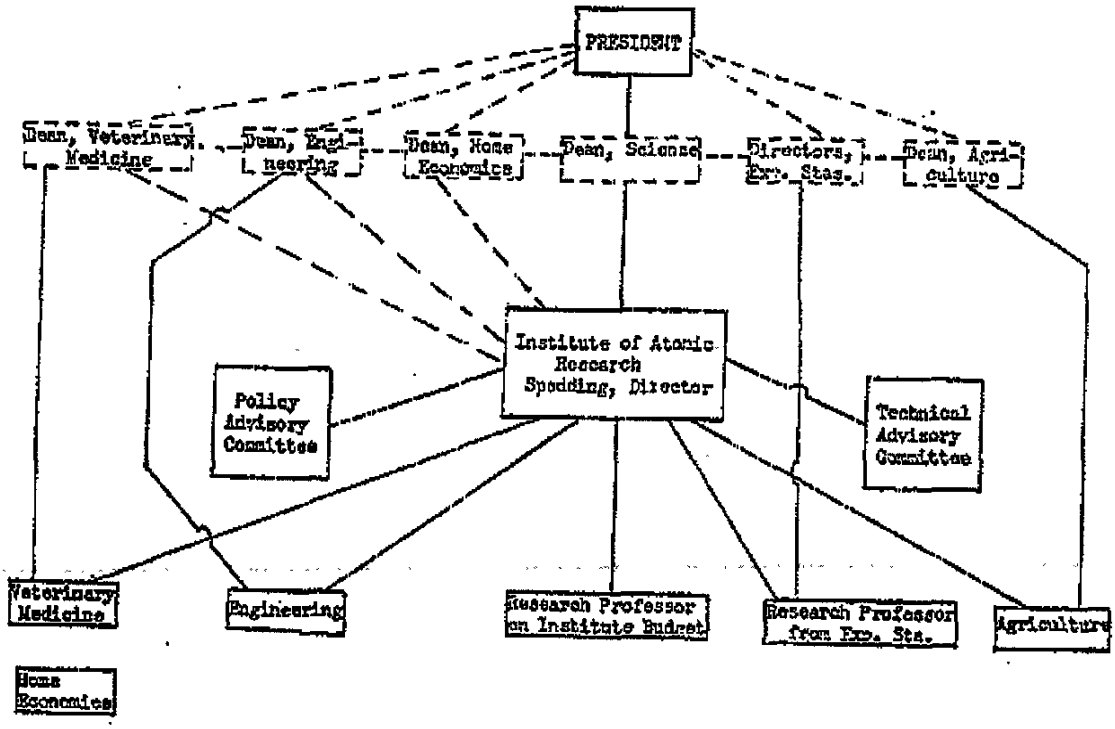


Figure G1. Organization chart proposed for the Institute of Atomic Research at Iowa State College, October 1945.

The Iowa State College

STATEMENT OF PRINCIPLES RELATING TO
THE NEGOTIATION AND ACCEPTANCE OF RESEARCH CONTRACTS

1. Research contracts will be accepted by Iowa State College only in fields of activity where the College is (a) authorized by the laws of Iowa and policies of the Iowa State Board of Education and (b) is competent by reason of qualified staff and facilities to perform the desired work.

2. Research contracts will be accepted only when the research contemplated thereby will be of benefit to the College, to the State of Iowa and/or to the public in general.

3. Prior to negotiating a research contract the administrative official under whose division the work will be performed shall advise the President that such a project has been offered, and shall submit a recommendation that such a project is desirable and that it conforms to the principles outlined in paragraphs 1 and 2 above. Individual staff members shall not enter into preliminary negotiations relative to research contracts unless and until authorized to do so. This is not intended to prohibit preliminary discussions, but is intended to apply to all fiscal and legal matters.

4. Upon authorization by the President, negotiations may be entered into with the agency desiring to initiate such a project by designated administrative officials and the Business Manager. Only such authorized individuals may represent the College in these negotiations.

5. The matter of reimbursement of costs and method and terms of payment involved in such contracts are of utmost importance in order that the College may follow a uniform policy with respect to the various contracting agencies.

6. In negotiating for the performance of research contracts Iowa State College will follow the following principles:

   (a) Prior to execution of any contract, the authorized officials shall prepare for filing with the contract a budget estimate, insofar as is practicable, of the cost of performing the contract which shall itemize in detail (1) cost of direct labor and services, (2) cost of materials which must be purchased or used, (3) description of college buildings and property to be used and term required, (4) allowance for direct charges against the project for utilities, travelling expenses, medical expenses, (5) indirect or overhead expenses, (6) all other expense items. Sources from which the required funds are to be secured - i.e., from appropriated State funds or other funds available to the College, and from funds due under the contract.

   (b) Where a portion of the costs required to perform a contract is to be paid by the College from its funds instead of being collected from the other party to the contract, complete

Figure G2. Policy on negotiation and acceptance of research contracts, approved by the Iowa State Board of Education. March 16, 1950

justification shall be submitted to the President of the College for approval, and such approved justification shall be filed with the contract in the College records. Where the College subsidizes a contract project, the relation of the contract to the work of the College shall be defined clearly.

(c) Indirect and overhead costs shall be computed in accordance with uniform policies and cost studies prepared from time to time by the Business Manager of the College.

7. The College should retain patent rights on all patentable materials or processes. In cases of contracts with agencies of the United States Government, however, waiver of patent rights will be permitted. If patent rights are relinquished a loss may accrue to the College, the value of which is difficult to determine. Such loss should be taken into account in all contracts in which patent rights are relinquished.

8. Authority to enter into contracts is granted solely by the Board of Education, through its Finance Committee and the President of the College. All contracts must be cleared with the Business Office for a check of the details of payment, conformity with fiscal policies of the College, and for inclusion on Board of Education or Finance Committee dockets for official approval. Contracts shall provide for the signature of the director of the appropriate Research Institute or Experiment Station and the President of the College.

9. The President of the College shall be authorized to consult legal counsel designated by the Finance Committee of the Board of Education in consultation with the Assistant Attorney General assigned to the Board in connection with research contracts as to provisions required in said contracts and rights and obligations of the College thereunder.

10. All contracts between the College and the United States Atomic Energy Commission or other agency of the United States operating under transfer of funds from the Atomic Energy Commission shall be administered within the College by the Advisory Committee of the Institute for Atomic Research. The Advisory Committee shall assign the performance of the research provided for in such contracts to the appropriate College division or Experiment Station. The College Divisions and Experiment Stations shall cooperate where necessary in the execution of such projects. Other contracts with the United States shall be administered by the President through the Division or Experiment Station designated by the President, and other agencies of the College shall cooperate where necessary in the execution of such projects. In all contracts where radioactive elements are involved, the Institute for Atomic Research shall be consulted and is charged with responsibility for recommendations as to safety of personnel and the public. Costs incurred in such consultations and in providing monitoring service are chargeable by the Institute for Atomic Research to the contracts in which radioactive elements are used.

Figure G2. (Continued).

Iha Iowa State College

STATEMENT OF POLICY REGARDING
DISPOSITION OF OVERHEAD FUNDS

The matter of overhead funds has become increasingly important in recent years, both as to amount and as to final disposition. After careful consideration of the issues involved, it has been decided that the following regulations will govern overhead accounts in the future:

1. Overhead receipts are not profit. They are intended primarily to reimburse the institution for general costs not directly chargeable to the contracts. They are institutional funds and not departmental.

2. Overhead funds when received will be credited to the General Fund of the College, segregated in an Overhead Account or Accounts, with proper identification as to source.

3. Overhead should be taken into account in negotiating the contract payment under a lump sum or grant type of contract. The right is reserved to transfer from such contract payments to the Overhead Account a proper charge for overhead.

4. Overhead funds may be made available to further the activities of the college agency or division to which the original contract is assigned; however, the College reserves the right to utilize funds from the Overhead Account for other purposes consistent with the general College program.

5. Requests for allocations from the Overhead Account should be submitted to the President's Office through budget transfers, indicating the specific activity to which the funds are to apply. Such requests will be given careful consideration and if approved will be presented to the Finance Committee for approval, then forwarded to the Business Office for implementation.

Figure G3. Policy on disposition of overhead funds at Iowa State College, approved by the State Board of Education, March 16, 1950.

THE UNIVERSITY OF IOWA

COLLEGE OF PUBLIC HEALTH
Department of Occupational and Environmental Health

BURLINGTON ATOMIC ENERGY COMMISSION PLANT
FORMER WORKER PROGRAM

SEC 38

Date June 29, 2005

Dear Mr. Elliot,

Please find enclosed an electronic copy of the Special Exposure Cohort Petition (Draft) for the Ames Laboratory, Ames IA, Department of Energy workers.

This petition covers period between and d is based on information indicating heavy exposures to uranium, thorium and thoron with little engineering control, presumably inadequate personal protection and a lack of personal radiation monitoring results making accurate and timely dose reconstruction problematic or impossible.

Should you have any remarks, comments, or questions please contact us at 1-866-282-5818

Sincerely,

Laurence Fuortes M.D.
The University of Iowa
College of Public Health
2115 Westlawn
Iowa City, IA 52242
Laurence-fuortes@uiowa.edu

UI College of Public Health
2115 Westlawn
Iowa City, Iowa 52242
Toll Free 1-866-282-5818
Fax 319-353-5649

Burlington Former Worker Program
2115 Westlawn
College of Public Health
The University of Iowa
Iowa City, IA 52242

ANTI-STATIC
MEDIA MAILER

Larry Elliot
Director, OCAS
4676 Columbia Parkway, MS C-46
Cincinnati, OH 45226-1998

SEC 38

CAUTION
Do not bend or fold
Avoid exposure to all magnetic fields

THE UNIVERSITY OF IOWA

SEC 38

COLLEGE OF PUBLIC HEALTH
Department of Occupational and Environmental Health

July 15, 2005

07-25-05P02:18 RCVD

Larry J. Elliott, MSPH, CIH
Director, OCAS
NIOSH, Robert A Taft Laboratories
4676 Columbia Parkway
Cincinnati, OH 45226-6825

Claimant ID #
DOL Batch #
DOL D.O. #
NIOSH/OCAS

Re: SEC 00038

Dear Mr. Elliott,
Thank you for your letter of July 12th and the list of deficiencies regarding the enclosed SEC petition for the Ames Lab.
Deficiency #1 has been addressed by submitting the demographic information for three of the persons who have signed authorizations, one survivor and two former workers, on page 2 of 7. Form B sections B and C.
Deficiency # 2 is addressed by checking "no" on Form B Section E 5 page 4 of 7. Note that previously enclosed descriptive text documents workers histories that there were several "blow-outs" with dissemination of both uranium and thorium from uncontrolled exothermic reactions which may be categorized as "incidents" however that is not the crux of the argument for the SEC in this case.
Please accept this letter, in particular the following clarifications, as an affidavit in response to Deficiencies # 3 and # 4.
As described in the SEC petition the scientific, technical and administrative workers at the Ames Lab were involved in a heavy industrial process involving processing of tons of uranium and thorium, generating large quantities of dust without personal protection, engineering controls or sufficient area and personal monitoring to protect them from radionuclide exposures and risks. I have sought the available documentation from the DOE historian, Roger Anders, the Ames lab archives, individual worker's medical records and public source documents, (university libraries), and reviewed these sources for available area and personal exposure records. Exposure data are available for small subsets of the workforce from few points in time, and without supporting documentation regarding protocols and methods. Review of Ames Lab medical records from individual workers involved in these processes has revealed no personal dosimetry records. These limited available exposure data, previously submitted as a part of the petition, support the response to items F1 and F 2 that radiation exposures and radiation doses incurred by members of the proposed class were not monitored either through personal or area monitoring and if such monitoring was performed it is no longer available, or lost.

Thank you again,

Laurence Fuortes, M.D. Professor, Occupational and Environmental Health
University of Iowa, College of Public Health
2124 Westlawn Building
Iowa City, Iowa 52242
TEL: 319 335 9819 or 866 282 5818,
FAX: 319 353 5649

NOTARIAL SEAL IOWA
KUSUM UDAS
Commission Number 722668
My Commission Expires
5/29/06

UI College of Public Health
2115 Westlawn
Iowa City, Iowa 52242
Toll Free 1-866-282-5818
Fax 319-353-5649

STATE OF IOWA
COUNTY OF JOHNSON

_____ Certificate Subscribed and Sworn to (or affirmed):

__✓__ Certificate of Acknowledgement:

On this 15th day of July, 2005 Laurence J. Fuortes

personally appeared before me,

_____ a) whom I know personally; OR

_____ b) whose identity I verified upon the oath of _____, (a credible witness); OR

__✓__ c) whose identity I verified on the basis of his/her UIHC I.D.

to be the person who signed the attached document(s), and he/she proved he/she signed it.

L.S.

KUSUM UDAS
Commission Number 722668
My Commission Expires
5/29/06

Kusum Udas, Notary Public

Residing at Iowa City, Iowa
My commission expires 5/29/06
Commission #722668

This Notary Certificate is prepared on a separate page and is attached to the document(s) entitled, NIOSH Affidavit, containing 1 page(s) and is attached to that document by means of stapling in the upper left-hand corner. If this certificate is detached from the specified document, this certificate is VOID.