1. NARA_RG341_E161_Twining_Bio_Chemical-Testing.pdf

Original start page:	1	**Inserted note page:**	1	**Archive starts after note:**	2

Why it belongs in this release

Strongest “cover-up architecture” pointer: Top Secret handling, withdrawn items, Air Force Development channels, Psychological Warfare, CIA briefing, JIC references, ECM/FERRET, long-range detection, and named generals.

Complete release-note text from UAP 4

1. Twining Bio-Chemical Testing / TS 296 file.

This is the most important official-archive lead because it shows sensitive Air Force development matters moving through senior officers, Psychological Warfare, possible JIC channels, and CIA briefings. The memo on TS 296 says General Agee would discuss the matter with Colonel Grover in Psychological Warfare, that General Saville may need a special CIA briefing, and that intelligence requirements included ECM, FERRET activities, and long-range detection. It also sits amid multiple withdrawal notices for security-classified information, plus a destroyed Top Secret JIC document concerning atomic weapons storage sites. Congress and NARA should identify and recover the underlying TS 296, TS 258, and related Saville/Vandenberg/Agee/Grover/Nelson records; require agencies to explain each withdrawal; and search DCS/Development, Psychological Warfare, CIA, JIC, Air Defense Command, and Air Force intelligence indexes for linked subjects.

Source: UAP 4 - Archives Release Notes(2).docx. This note page was inserted immediately before the archive file.

ACCESS RESTRICTED

The item identified below has been withdrawn from this file:

File Designation #101
Memo w/att.
Date 7-8-50
From Saville
To Brandt

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[X] Security-Classified Information

[ ] Otherwise Restricted Information

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NND 917084
Authority

9-11-91
Date AR

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(2)
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The item identified below has been withdrawn from this file:

File Designation # 251
Memo w/Att.

Date 8-29-50

From Saville

To

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NND 917084 — Authority
9-11-91 AR — Date

2-15386

REGISTER OF PERSONNEL HANDLING TOP SECRET MATERIAL

DATE
T.S. CONT. # D.I? HQ USAF

DIVISION	OFFICE
BJSM	Top Secret Control Officer, 4B929 Pentagon Dir/Intelligence USAF Washington 25, D. C.

SUBJECT AND DESCRIPTION OF INCLOSURES	NUMBER OF PAGES		NUMBER OF INCLOSURES
~~LTR TO GEN CABELL~~ ~~DTD 1 Sept 56 SUBJ: T O R~~ Cy 4 of 5	IN BASIC		1
	IN INCLS.		

INSTRUCTIONS

The above described Top-Secret document has been received in this office this date. The circulation of this material will be limited to the minimum number of persons necessary for completion of the required action. The names of all persons handling or having knowledge of the subject document will be recorded below as indicated.

The document will be returned to the Top-Secret Control Officer (Room_____) for record prior to dispatch from this office or other disposition. This form will not be removed from the subject document except by him when forwarding.

NAME	DATE	TIME	PURPOSE	ALL PAPERS ATTACHED
WOJG L. BEDORE	2 Sept	1215	PROCESSING	YES
Col. Richards	2 Sept	1515	Duty officer OIP	yes
Col. Coleen.	5 Sept	1245	Review	yes
John E. Murray	5 Sept	1430	Processing	yes
CWO Berg	5 Sep	1500	Recording	Yes.
[illegible]	5 Sept	1700	✓	
Col. H A Boushey.	1 Dec	11:00	Review	Yes.
T. F. Walkowicz	13 Dec	16:30	Review	Yes
E. A. HESS CWO, USAF - ~~AFDDC-ES~~	21 JUN 56	21 JUN 56		
J A Hess	21 JUN 56	21 JUN 56		

MEMORANDUM FOR THE RECORD

AF HQ FORM 6
26 JULY 1948

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

9-336, AF

G 34/
-161
DX 1

(4)
1/88/T

ACCESS RESTRICTED

The item identified below has been withdrawn from this file:

File Designation #264
Rpt.
Date 1950
From Subj: Review of Defense Research &
To Development Policy, 1950

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NND 917084
Authority

9-12-91
Date

341
- 161
X 1

(3)
1/2/T

ACCESS RESTRICTED

The item identified below has been withdrawn from this file:

File Designation # 258
Memo
Date 8-31-50
From Saville
To Vandenberg

In the review of this file this item was removed because access to it is restricted. Restrictions on records in the National Archives are stated in general and specific record group restriction statements which are available for examination. The item identified above has been withdrawn because it contains:

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NND 917084
Authority

9-12-91
Date AR

REGISTER OF PERSONNEL HANDLING TOP SECRET MATERIAL

AFDDC #258

DATE: 31 Aug 1950

DIVISION:

OFFICE: DCS/Development

SUBJECT AND DESCRIPTION OF INCLOSURES: Cys 1,2,3,4 and 5 Memo for Gen Vandenberg fr Gen Saville, 31 Aug 50 "Intelligence Deficiencies"

NUMBER OF PAGES		NUMBER OF INCLOSURES
IN BASIC	2	None
IN INCLS.		

INSTRUCTIONS

The above described Top-Secret document has been received in this office this date. The circulation of this material will be limited to the minimum number of persons necessary for completion of the required action. The names of all persons handling or having knowledge of the subject document will be recorded below as indicated.

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NAME	DATE	TIME	PURPOSE	ALL PAPERS ATTACHED
Major J. R. Dempsey	31 Aug 50	1200	Dictation	- - -
Mrs A. Fagelson	31 Aug 50	1200	Typing	- - -
CWO H Oberg	31 Aug 50	1230	Recording	- - - -
E. A. Hall CWO, USAF - AFDDC-ES	21 JUN 56	21 JUN 56		
[signature]	21 JUN 56	21 JUN 56		

MEMORANDUM FOR THE RECORD

AF HQ FORM 6
26 JULY 1948

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

9-336, AF

2-57

TOP SECRET

Asth CS, USAF

Wrtn 3 Oct 50/Gen Yates/76518/fm/AFDDC

MEMORANDUM FOR THE RECORD:

1. I discussed the subject included in TS 296 with General Agee to whom I delivered our copy - no receipt. He advised me that he would discuss the matter with Colonel Grover in whose department (Psychological Warfare) the item falls. Colonel Grover will get in touch with me in the near future to discuss appropriate action and determine what, if any, specific action DCS/D should take. I discussed with General Agee the contents of TS 258 and was advised that with respect to Recommendation C, action is now in DCS/O front office. With respect to General Saville's desire to initiate JCS action on Air Force requirements for this intelligence, General Agee said he was of the opinion that all action necessary had been taken, however, believed that General Saville should be briefed by Colonel Grover and possibly have a special briefing by CIA in order that he may be acquainted with their appreciation of the problem and implementing action. It is recognized that our requirements are not being adequately met, however, I believe that General Agee is of the opinion that the difficult has been done immediately; the impossible will take a little longer. I will discuss this further with Colonel Grover when he briefs me on TS 296. I should talk to Colonel Putnam (?JIC?) after I have discussed it with Colonel Grover.

2. In the discussion with General Agee, intelligence requirements were mentioned and Agee indicated apprehension, less all their requirements might not be included in our official listing, specifically he mentioned ECM and FERRET activities. He will contact General Forrest Allen to insure that his requirements are passed on to the Directorate of Requirements or that another channel is set up. In the meantime, I agreed to brief him on our finalized list, if such is prepared prior to these arrangements. In the field of long range detection, General Agee stated that General Nelson alone knew the answers to these problems, and that he had a completely free reign in establishing his requirements and research and development action. I plan to discuss this matter with General Nelson in order to set up a routine integration of his requirements into our program. With respect to E&E and associated activities, General Agee feels that the directive to SAC was right. However, that SAC's implementing action may be covering too wide a field. I am sure that General Agee is completely sold on the idea of integrating this effort with air rescue, although, I do not believe he will fight it aggressively.

D. N. YATES
Brigadier General, U.S.A.F.
Assistant Deputy Chief of Staff,
Development

AFDDC TSC NO. 258

TOP SECRET

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The item identified below has been withdrawn from this file:

File Designation # 440
Memo w/Att.
Date 12-18-50
From Saville
To Shepard

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Authority

9-12-91
Date

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(7)
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The item identified below has been withdrawn from this file:

File Designation #584
Memo
Date 6-20-51
From Twinings
To DCS/ Development

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NND 917084 9-12-91
Authority Date

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D. C.

Top SECRET
AFOA CS USAF
PEW
20 March 52

MEMORANDUM FOR MAJOR GENERAL JAMES E. BRIGGS

SUBJECT: BW-CW Testing Program

26 MAR 1952

1. Reference is made to the attached letter from ARDC, Subject: "BW-CW Testing Program," dated 8 March 1952.

2. Action has already been or is being initiated to accomplish the recommendations contained in Par. 3d(2) and 3d(3). In addition, APGC has been directed to conduct Phase VII testing with those items listed in Par. 3a which are presently ready for test. However, some of the items listed in the paragraph are not ready for Phase VII testing. Correspondence is being prepared to advise APGC that these items may be ready for testing late this year and that when they are necessary test directives will be furnished.

3. Since there is considerable action necessary by other offices to accomplish the recommendations contained in the above referenced letter, suitable memoranda have been prepared for your signature requesting necessary action.

5 Incls
1. Ltr fr ARDC dtd 3 Mar 52 (Cy 1 Ser A)
2. Memo to R&D for signature
3. Memo to DCS/M for signature
4. Memo to DCS/P for signature
5. Memo to Surgeon General for signature

M. R. NELSON
Major General, USAF
Director of Requirements

M/R
Gen Briggs was seen
#3 dealt with by memo to ORD dated 27 Mar

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520073

TOP SECRET

AFDRQ Control No. 9-6-1

TOP SECRET

22 March 1952 AFDRQ-SA/M
Captain Stone/mlw/71608

SECURITY INFORMATION

Top SECRET
AUTH: CS, USAF
EO
2 Yrs

27 MAR 1952

MEMORANDUM FOR: DEPUTY CHIEF OF STAFF, PERSONNEL

SUBJECT: BW-CW Testing Program

1. The attached copy of a letter from ARDC recommending certain action to accomplish the earliest possible BW-CW operational capability is forwarded to your office for consideration and appropriate action.

2. It is requested that this office be informed of the specific action taken in respect to Par. 3e.

WILLIAM A. SHEPPARD
Colonel, USAF
for JAMES E. BRIGGS
Major General, USAF
Asst Deputy Chief of Staff,
Development

1 Incl
Cy 3 Series B
ltr frm ARDC
dtd 3 Mar 52
w/2 Incls

AFDRQ-SA/M
Capt Stone
Col Crumly

AFDRQ-SA

AFDRQ

AFDDB

AFDRD-AR
Rejonis

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52017

rtn 26 March 1952/Capt Blodgett/mjl/76582/AFDDC

TOP SECRET

27 MAR 1952

MEMORANDUM FOR: DIRECTOR OF RESEARCH AND DEVELOPMENT

SUBJECT: (Confidential) BW-CW Testing Program

1. I am attaching a letter from ARDC, subject as above. I am also sending you copies of memorandums addressed to the Director of Requirements, the Chief of the Policy Group, and the Chief of the Personnel Management Branch, all dated 14 March 1952.

2. Your office is assigned the responsibility for initiating required action and furnishing ARDC necessary guidance on all portions of the attached letter except those specifically assigned to other offices in my instructions of 14 March.

3. Reference my memorandums to the Policy Group and the Personnel Management Branch, all communications between these offices and ARDC on this subject will be routed through your office.

4. Copies of this memorandum are being furnished to all offices concerned.

4 Incls:
1. Ltr fr ARDC dtd 3 Mar '52
2. Memo for PG dtd 14 Mar '52
3. Memo for PM dtd 14 Mar '52
4. Memo for AFDRQ dtd 14 Mar '52

JAMES E. BRIGGS
Major General, USAF
Asst Deputy Chief of Staff,
Development

cc: AFDRQ
AFDDC-PG
AFDDC-PM

520075

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SECURITY INFORMATION

Copy 6 of 6 copies
Page 1 of 1 pages

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D. C.

DDC - PM

MEMORANDUM FOR: CHIEF, PERSONNEL MANAGEMENT BRANCH

SUBJECT: BW-CW Testing Program

The Chief, Personnel Management Branch is responsible for assisting DCS/P in any action required relative to paragraph 3e of the attached letter.

JAMES E. BRIGGS
Major General, USAF
Asst Deputy Chief of Staff,
Development

1 Incl:
Ltr fr ARDC
Dtd 3 Mar '52

Memo for record.

Ltr 3e has been extracted for necessary action by this office.

T. G. Lent
Maj. USAF

Copy 1 of 3 copies
Page 1 of 1 pages

AFDDC TSC NO. 520075

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SECURITY INFORMATION

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- 161
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9A
1/13/T

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File Designation # 520075
Memo
Date 3-8-52
From Sessums
To DCS/ Development

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Date AR

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The item identified below has been withdrawn from this file:

File Designation # 520085
Summary Sheet w/att.
Date 3-14-52
From Craigie
To —

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NND 917084 — Authority
9-11-91 — Date

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ACCESS RESTRICTED

The item identified below has been withdrawn from this file:

File Designation #520126
Memo
Date 4-28-52
From Craige
To Vice Chief of Staff

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NND 917084
Authority

9-12-91 AR
Date

REFERENCE SERVICE SLIP						DATE 4/11/04	NO.
NAME OF REQUESTOR [redacted] Wood				AGENCY OR ADDRESS			
UNITS OF SERVICE						SOURCE OF REQUEST (Check)	
INFORMATION SERVICE (Number of replies)		RECORDS FURNISHED (Number of items)	TEXTUAL, STILL PICTURES, ETC. (Number of pages)	MOTION PICTURES (Number of feet)	SOUND RECORDINGS (Number of feet)	NA Administrative Use	
WRITTEN	ORAL					Agency of Origin	
						Other Government	
						Nongovernment	
						REQUEST HANDLED BY	
RG NO.	STACK AREA 631		ROW 57	COMPARTMENT 24		SHELF 3	OUTCARD NO.
RECORD IDENTIFICATION Box 1 1950-51 Box 1 1951-57							
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RD 45

Army AEC 14 Feb 49

Summary from the Standpoint of Control, of the rare earths situation

CY #6, 1 cy destroyed per CD #TS-161-58, 13 Feb 58

TOP SECRET

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RD 44

Army AEC 18 Jan 49

Summary, from the Standpoint of Control, of the Bismuth Situation

cy #6, 1 cy destroyed per CD #TS-161-58, 13 Feb 58

TOP SECRET

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TOP SECRET

RD 49

24 Feb 49

Atomic Weapons Supplement to Trojan

1 cy w/1 incl, cy #19 destroyed per CD #TS-161-58,
13 Feb 58

TOP SECRET

DESTROYED

TOP SECRET

RD 128

Rand Corporation 4 Jan 51

PROJECT RAND; Staff Report

1 cy w/2 incls, 1 cy ea destroyed per CD #TS-161-58,
13 Feb 58

TOP SECRET

DESTROYED

TOP SECRET

RD 184

Joint Intelligence Committee 17 Aug 51

Reply to Senator McMahon's Letter Concerning Security of Atomic Weapons Storage Sites

1 cy #8 destroyed per CD #TS-161-58, 13 Feb 58

TOP SECRET

2. NARA_RG330_JCS_JOIA_Project 63.pdf

Original start page:	20	**Inserted note page:**	21	**Archive starts after note:**	22

Why it belongs in this release

Shows an official DOD/National Academy/CIA/JIOA system for identifying, evaluating, and exploiting foreign scientific talent in aerospace, nuclear, biological, electronics, and other military-relevant fields.

Complete release-note text from UAP 4

2. Project 63 / JIOA / National Academy scientific contracting list.

This document is highly valuable because it demonstrates a formal mechanism for evaluating foreign scientists as strategic assets or threats. The National Academy reviewed the “Project 63 - Contracting List” under a DOD contract, with the stated objective of assessing scientists who could become a “security threat” if they fell into hostile hands. The CIA/JIOA material shows concern about scientific intelligence dossiers on German scientists and the urgent duplication/transmission of intelligence information from Europe. Congress and NARA should cross-reference Project 63 with Operation Paperclip, JIOA, CIA Scientific Intelligence Committee files, Wright-Patterson Air Materiel Command files, and contractor records for aerospace, propulsion, metallurgy, biology, electronics, and nuclear physics. If UFO reverse engineering existed, this is exactly the type of scientific personnel pipeline that would have been used.

Source: UAP 4 - Archives Release Notes(2).docx. This note page was inserted immediately before the archive file.

25 August 1952

PROJECT 63 CONTRACTING LIST BY CATEGORIES

As Revised By

The National Academy of Sciences

~~SECRET~~
~~SECURITY~~

MEMORANDUM ON CONDUCT OF SURVEY AND CRITERIA FOR EVALUATION
PROJECT 63

1. Individuals Interviewed

The revised list is based on interviews with a total of 92 individual references, hereinafter referred to as referees. Of the 92, 75 were listed in the original Academy list of referees, 17 were individuals suggested by those original referees. There are 16 original referees whom the survey never interviewed.

2. Basis of Judgment

What was sought in the revision was not a summation of famous and eminent men, but rather a shortening of the original list to include a relatively small number of people that would permit of the utilization that is possibly contemplated. Even the resulting list may be too long. In any event, judgment has been made with an awareness of the need to reduce the length of the original list while at the same time improving its quality.

Therefore generally excluded were many names of older men where the comment was that their period of productivity was well-nigh over. Young brilliant men in the age group 30-50 are preferred over those in the 60-plus age group.

Summarized below are sample types of value judgment which were used in appraising the views of the referees.

A. Grounds for including a particular name:

(a) X is the outstanding man in his field in all Europe, or in all Germany.
(b) Referee made a study of German scientists for some government agency within last 5 years.
(c) Referee maintains constant correspondence with European scientists in his field, has up to the minute information as to where a particular man is living, working, and what he is working on.
(d) Referee knows of his own knowledge that various American laboratories are attempting, or have attempted, to bring X over here because of his tremendously advanced knowledge in a field which makes him preominent in the world, so far as one can tell.
(e) Referee toured Germany last year, talking with everybody, assessing people in a field familiar to him, and ferreted out some real genii in that field.

B. Grounds for excluding a particular name:

(a) Referee remembers X as an old man 20 years ago when referee in Germany.
(b) Referee says X is predominantly a theoretician in a field that currently presents more technical headaches than theoretical headaches.
(c) X was leader in German wartime research but has since retired.
(d) X has wide reputation but is really more of an administrator than a real scientist.
(e) X is great but his field lacks military significance.
(f) X is great but American scientists in the field are generally ahead of German research, and X's knowledge would be of little use to our late allies.
(g) X is a good scientist primarily as a teacher.
(h) X's ideas are so impractical that he would be of no use as a source of the type of gadetry that is in fact needed in his field from a military application standpoint.
(i) X is a good man, and he might be useful to us but probably our late allies have men far better than he already.
(j) X is a good man, but so independent that he would never do useful work in conditions of servitude.

3. The Revised List

In the old list several names appeared in more than one category. In the revised list each name appears in one category only.

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~~SECURITY INFORMATION~~

I. AERONAUTICS

NAME	FIELD	LOCATION
BACHEM, Erich	Aeronautical Engineering	Argentina
GOSSLAU, Fritz Dr. Ing.	Pulse Jet Design	Bielefeld, Germany Kreutzstr. 34 Empl: Duerkopp-Werke Bielefeld
HELMBOLD, Heinrich B.	Propeller Design	Munich 23, Germany Roemerstr. 14/II
HERTEL, Heinrich Prof. Dr. Ing.	Aeronautical Engineering	Le Castelet, Route de Berre, Aix-en-Province, B.D.R., France
MARGUERRE, Karl Prof. Dr. Ing.	Aircraft Wing Structure, Theoretical Elasticity	Darmstadt, Germany Frankfurterstr. 84
MESSERSCHMIDT, Willy	Aerodynamics	Munich-Solln, Germany Froelichstr. 2, or Toelzerstr. 186
OSWATITSCH, Klaus	Aerodynamics	Stockholm, Sweden
PABST, Otto	Ram Jets	Koblenz, Germany Cusanasstr. 28 (May be in Argentina)
SCHEUBEL, Franz Nikolaus	Aerodynamics	Inst. of Technology Darmstadt
SCHMIDT, Paul A. Dr. Dipl. Ing.	Jet Propulsion	Munich 19, Germany Nibelungenstr. 14/II
TOLLMIEN, Walter	Aerodynamics	Goettingen, Germany Schillerstr. 13 Empl: Max Planck Inst. Univ. of Goettingen
WEISE, Artur Gustav Prof. Dr. Ing.	Aerodynamics Hydrodynamics	Stuttgart Inst. of Tech., Ruit nr Esslingen Kirchheimerstr. 128, Germany
WEISSINGER, Johannes	Load Distribution of Wings	Hamburg, Germany

ADDITION

VOGT (VOIGHT?)	real individual responsible for building the Messerschmidt 262 at Oberammergau	

Note: Names underlined denote individuals approved under more than one category. They are listed under one catogory only, however.

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~~SECURITY INFORMATION~~

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~~SECURITY INFORMATION~~

II. ACOUSTICS

NAME	FIELD	LOCATION
CREMER, Dr. (FNU)	Acoustics	Third Physical Inst. Goettingen, Germany
MEYER, Erwin	Acoustics	Rettin bei Neustadt, Schleswig-Holstein, Germany. Bus: Third Physical Institute, Goettingin, Burgerstr. 42
OBERST, Dr. (FNU)	Physica-Acoustics	Third Physical Inst. Goettingen

ADDITIONS

STENZEL, Dr. Heinrich		Counsellor, Univ. of Kiel
TRENDELENBURG		Siemens
KNESER, Dr. Hans O.		Goettingen

III. BALLISTICS

BEHRENS, Dr. Hans Joachim	Ballistics	Weil-Rhein, Germany Markstr. 56
NEUMANN, Dr. Hans	Explosives	Blamau, Austria
SCHWARZ, Dr. Eleanore	Ballistics	(14) Berlin-Lankwitz Weygerweg 1, Germany

IV. BIOLOGY AND BACTERIOLOGY

BERSIN, Theodor Prof. Dr.	Biological Warfare	Marburg/Lahn, Germany Universitaetstr. 52
BIELING, Richard Prof. Dr.	Biological Warfare; Bacteriological Immunology	Marburg/Lahn, Germany Wilhelm Roserstr. 4
BUTENANDT, Adolph	Biochemistry (cancer research)	Kaiser Wilhelm Inst. for Biochemistry Tuebingen, Germany
DEMNITZ, Dr. Alfred	Experimental Therapy and Biological Warfare	Marburg/Lahn, Germany Rotenberg 52
GERLACH, Prof. Franz	Biological warfare	Chile
RUSKA, Helmut Prof. Dr.	Electronics; Biological Warfare	Berlin-Dahlem, Germany Ihnestr. 43
ZEILE, Karl Prof. Dr.	Biological Chemistry	Memmingen/Bav., Germany, Weinmarkt 1

ADDITION

REIN, F.H.	Senior Editor FIAT volune on Physiology

~~SECRET~~
~~SECURITY INFORMATION~~

V. CHEMISTRY

NAME	FIELD	LOCATION
BONHOEFFER, Karl F. Prof. Dr.	Physical Chemistry	Max Planck Inst. for Physical Chemistry Goettingen
CLUSIUS, Klaus	Physical Chemistry	Prof. of Physics, Technische Hochschule Zurich, Switzerland
EBERT, Ludwig Prof. Dr.	Analytic Organic Problems of Fluorine	Vienna IX, Austria Waehringerstr. 42 First Chemical Inst. Univ. of Vienna
GOUBEAU, Josef	Inorganic Chemistry	Univ. of Goettingen Goettingen
HIEBER, Walter	Inorganic Chemistry	Technische Hoch-schule, Munich, Ger.
HUETTIG, Gustav Prof. Dr.	Inorganic Chemistry	Technische Hochschule Graz, Austria Res: Graz, Austria Techbauergasse 12
JOST, Wilhelm Prof. Dr.	Physical Chemistry	Physical Chemistry Inst. University of Marburg, Marburg, Germany Res: Marburg, Schueckingstr. 6
MECKE, Prof. R.	Physical Chemistry	Home: Maximilianstr. 18, Freiburg, Ger.
PIER, Dr. Mathias	Hydrogenation	Heidelberg, Germany Neue Schloss St. 42 c/o Funk
REGENER, Erich Prof. Dr.	Physical Chemistry	Stuttgart-N, Germany Wiederholdstr. 13 Phys. Inst. T.H.S. Res: Weissenau, Kreis Ravensburg
REPPE, Walter J.	Chemistry	Ludwigshafen, Germany Woehler Str. 24-A
RICHTER, Friedrich Dr.	Chemistry (Organic)	Beilstein-Institute Farbwerke S39, Frank-furt Main-Hoechst, Germany
SCHAFFER, K.	Chemistry	Inst. for Physical Chemistry Univ. of Heidelberg
SCHEIBE, Gunther Prof. Dr.	Physical Chemistry	Technical Inst. University of Munich, Germany
SCHMITZ-DuMONT, O.	Inorganic Chemistry	University of Bonn, Germany

~~SECRET~~
~~SECURITY INFORMATION~~

V. CHEMISTRY (Cont'd)

NAME	FIELD	LOCATION
STRANSKI, Ivan N. Prof. Dr.	Physical Chemistry Crystals	K.W.I. for Physical Chemistry, Berlin-Dahlem, Germany, Faradayweg 4-6
UEBERREITER, Kurt Prof. Dr.	Physical Chemistry high polymers	Same address as Stranski's; or: Berlin-Lichterfelde-West Germany Ringstr. 85/86
WIBERG, Egon	Chemistry Guided Missiles	Home: Munich, Germany Noerdl.Auffahrtsalle 22/I. Bus: Munich, Luisenstr. 14
ZIEGLER, Karl	Chemistry	Muelhein, Ruhr, Germany

ADDITIONS

Ernst SCHMIDT, Hamburgerstrasse 8, Braunschweig

Grewe, at Kiel (best Gorman chemist in field of morphine chemistry)

BROCKMANN, at Göttingen (outstanding in antibiotics)

INHOFFEN, H.H., at Braunschweig

KUHN, Richard, at Max Planck Institute fur Medicinische Forschung, Heidelberg; 50-ish; #1 German organic chemist

LAUTSCH, Willie - Free University of Berlin - young ball of fire

VI. ELECTRONICS

GUNDLACH, Friedrich Wilhelm, Prof.Dr.	Electronics	Institute of Technology, Darmstadt, Germany
PLESSE, Dr. Hans	Infra-Red detecting	Heidenheim/Br. Germany, Steinstr. 3
RUNGE, Dr. Wilhelm	Radar	Telefunken Co., Berlin 661, Germany; Mehringdam 32-34 Res: Berlin-Schlachtensee Seesteg 6
RUSKA, Dr. Ernst	Electronics	Bus: Laboratorium fuer Elektronoptik der Siemens U.Halski, A.G. Wernerwerkdamm 15-181, Berlin Siemensstadt, Germany

VII. ENGINEERING

BETZ, A.	Fluid Mechanics	Max Planck Institute Goettingen, Germany
HARTUNG, Friedrich K.	Hydroelectric research	Pension Brunsvigá, Wallgua b/Mittenwald, Germany

~~SECRET~~
~~SECURITY INFORMATION~~

VIII. FUELS

IX. GEOPHYSICS, GEODETICS, and GEOLOGY

ADDITIONS.

BARTELS, Julius, Gottingen - Editor of FIAT Review

DIEMINGER, - Göttingen

Note: Both above men are geophysicists in charge of wave propagation studies. They outline the problems and others do them. Their work is akin to that down at our Bureau of Standards at the Central Radio Propagation Laboratory.

NAME	FIELD	LOCATION

X. GUIDED MISSILES

CZERNY, Marianus Prof. Dr.	Rockets	Physical Institute, Univ. of Frankfurt Res: Frankfurt/Main Westendstr. 95
GAST, Theodor R.W. Dr. Ing.	Guided Missiles	Klausernmuehle bei Bensheim a.d. Bergstrasse Schliessfach 12, Germany
WALKER, E.	Rockets	Freiburg, Germany
WALTHER, Alwin Oswald Prof. Dr.	Guided missiles, Mathematics	Darmstadt, Germany Fichtestr. 32

ADDITION

ACKERET - Basle or Zurich (royalty in gas turbine field)

XI. HYDRAULICS and HYDRODYNAMICS

BOESS, P.	Hydraulics	Karlsruhe, Germany

ADDITIONS

PRANDTL, W.

REICHARDT

ALBRING, W. - University of Hanover

Note: Both Reichardt and Albring are A-1 men, under 45, very active. Albring is an A-1 torpedo man.

XII. INFRA-RED

PRZIBRAM, Karl Prof. Dr.	Infra-red	Vienna XIII, Austria Mantlerg. 16a

ADDITION

KOPFERMANN - Goettingen

~~SECRET~~
~~SECURITY INFORMATION~~

~~SECRET~~
~~SECURITY INFORMATION~~

XIII. INSTRUMENTS

NAME	FIELD	LOCATION
DUDENHAUSEN, H.J.	Instruments	147 Rue d'Alesia Paris 14, France

XIV. MATHEMATICS

COLLATZ, Prof. Lothar	Mathematics	Hanover Inst. of Techn. Hanover, Germany
GOERTHER, Henry	Applied Mathematics and Boundary-Layer Control	University of Freiburg, Breisgau, Germany
HLAWKA, Edmund Prof. Dr.	Mathematics	Vienna XIV, Austria Goldschlaggasse 173/20
KAMKE, E.	Mathematics	Univ. of Tuebingen, Germany; or, Physics Inst. Marburg, Germany
RELLICH, F.	Mathematics	Univ. of Goettingen
SCHARDIN, H.	Mathematics	Freiburg, Germany
SCHRENK, Dr. O.	Boundary-layer control	Paris, France

ADDITIONS

GESSNER - co-worker of Schardin

RICHTER - co-worker of Schardin

SEIFERT, Herbert - Goettingen

XV. MEDICINE

DUSSIK, Karl Theodor Dr.	Ultrasonics as related to medical diagnosis	Bad Ischl, Austria Pfarrgasse 2, Zr.214
HILDEBRANDT, Fritz Prof. Dr. Med.	Pharmacology	Bad Nauheim, Germany Burgallee 2
MERKLER, H.	X-rays	Kaiser Wilhelm Inst. for Biophysics, Frankfurt
SCHOEDEL, W.	Physiology	Max Planck Inst. Goettingen
SCHRAMM, Gerhard Dr.	Biological warfare Viruses	Berlin/Rhein, Germany, Soilcherstr. 7. Bus: K.W.I. for Biochemistry, Tuebingen
WALDMANN, O. Prof.	Vaccines and Viruses	Argentina
WARBURG, Otto, Prof. Dr.	Cancer research	K.W.I. Berlin-Dahler, Germany Garystr. 18

ADDITION

DOMAGK(?) - Chemotherapist; greatest organizer for the testing of drugs in the world.

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~~SECURITY INFORMATION~~

XVI. METALLURGY

NAME	FIELD	LOCATION
BOLLENRATH, Franz Prof. Dr. Ing.	Metallurgy	Aachen, Germany Mizzalee 54
DEHLINGER, Ulrich Prof. Dr.	Metals Research	Herrenberg, Germany Kreis Boeblingen am Joachimsberg 40 Bus: Institut fuer Theoretische und Angewandte Physics, Technische Hochschule Stuttgart, Germany, Kepplarstr. 10
GLOCKER, Richard Prof. Dr.	Metallurgy	Stuttgart-N, Germany Robert Bosch Str. 10 Bus: K.W.I. for X-ray Research, Stuttgart
HOUDREMONT, Eduard Dr. Ing.	Metallurgy, sub- stitute metals	(22a) Essen-Brodeney, Germany, Brachstr. 17
KIEFER, Dr. Richard	Sintered metals	Reutte, Tyrol, Linden- strasse 311, Austria
KOESTER, Werner Prof. Dr. Phil.	Metallurgy	Stuttgart, Germany Eduard Pfeifferstr. 79
NISSEN, Oskar K.	Research on materials, aircraft	Frankfurt/Main, Griesheim, Germany Stroofstr 8
SIEBEL, Lothar Max Erich Prof. Dr. Ing.	Iron research	Stuttgart-S, Germany Sonnenbergstr. 43e

XVII. METEOROLOGY

ERTEL, Dr. Hans	Theoretical meteorology	Institut fuer Phy- sikalische Hydro- graphie, Berlin- Friedrichshafen Germany Mueggel Damm 256. Res: Berlin, Konradschoehe Sandhauserstr. 46

XVIII. MISCELLANEOUS

~~SECRET~~
~~SECURITY INFORMATION~~

XIX. NUCLEAR PHYSICS

NAME	FIELD	LOCATION
BOTHE, Walter Prof. Dr.	Nuclear Physics	Physical Inst. Univ. of Heidelberg, Ger. Res: (17a) Heidelberg im Baeckerfeld 6
DIEBNER, Kurt	Nuclear Physics	Muller-Rontgenwork Hamburg, Germany Rontgenstr. 24
HAXEL, Prof. Otto	Nuclear Physics	Second Physical Inst. Univ. of Heidelberg Heidelberg, Germany
HILSCH, Rudolph Prof. Dr.	Nuclear Physics	Erlangen, Germany Rathsbergerstr. 8 Bus: Univ. of Erlangen Physics Institute
HOUTERMANS, Prof. Fritz G.	Nuclear Physics	Second Physical Inst. Univ. Goettingen Lotzestr. 22, Goettingen
LINTNER, Karl Rudolph Josef Dr. Priv. Doz.	Nuclear Physics	Vienna IX, Strudel-hofgasse 4
MAIER-LIEBNITZ, Heinz Dr. Dipl. Ing.	Nuclear Physics	Heidelberg, Germany Physics Institute, Univ. of Heidelberg
STRASSMAN, Prof. Fritz	Nuclear Physics	K.W.I. Institute for Chemistry, Mainz, Germany
WALCHER, Wilhelm Prof. Dr.	Nuclear Physics	Physikalisches Inst. der Univ. Marburg; Marburg/Lahn, Renthof 5
von WEIZSACKER, Karl C.F.	Nuclear Physics	Goettingen, Germany Merkelstr. 18

XX. OPTICS

HERZOG, Richard Franz Doz. Dr.	Spectroscoptics Electron Optics	II Physics Institute University of Vienna Res: Vienna VII, Austria Burggasse 72/III/29
KOHLRAUSCH, K.W.F.	Spectroscopy	Technische Hoch-schule, Graz, Austria
LEITZ, Ernst Jr., Dr.	Optics, Cameras	Wetzlar, Germany Laufdorferweg 6 (87) Haus Friedwart
ROLLWAGEN, Walter Prof. Dr.	Optics and Fine Mechanics	Munich, Germany Gisela Str. 17/I

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~~SECURITY INFORMATION~~

XXI. PHYSICS

NAME	FIELD	LOCATION
BARTELS, Helmut	Electrical discharge in gases	Physical Institute Technische Hochschule Hanover, Germany
BOMKE, Dr. Hans	Physics	Herrsching am Ammersee Schloss Ried 369 Landkreis Starnberg Germany
HEISENBERG, Prof. Werner	Physics	Goettingen, Germany Merkelstr. 18 Bus: Max Planck Inst.
HETTNER, Prof Gerhard	Physics	Munich, Germany Tengstr. 45/0 or Gaiglstr. 25
JOOS, Georg Jakob C. Prof.	Physics	Technische Hochschule Munich Res: (13) Munich Adelheidstr. 10
JORDAN, Pasqual	Physics	Univ. of Hamburg, Ger. Home: Hamburg, Bundestr. 84/III (might have moved to Bamberg)
von LAUE, Max Prof. Dr.	Physics	Goettingen, Germany Bottinger Str. 4
MATTAUCH, Joseph	Physics	Lugano, Switzerland or K.W.I. Tailfingen, Postfach 86, Kreis, Balingen, Germany or K.W.I. Mainz
MOLLWO, Erich Ludwig, Prof. Dr.	Physics	Univ. or Erlangen Germany
MUELLER, Erwin Prof. Dr.	Physics	K.W.I. Institute for Physics, Chemistry, Berlin, Germany
SCHOTTKY, Walter Prof. Dr.	Physics	Pretzfeld No. 139 nr Forchheim, Germany Oberfranken, Haus 13 Bus: Siemens Plant Pretzfeld
TAMM, Dr. K.	Physics	Third Institute, Univ of Goettingen
UNSOELD, Prof. Albrecht	Physics	University of Kiel Home: Kiel, Germany Waitzstr. 41

ADDITION:

I. N. STRANSKI - physics of solids

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~~SECURITY INFORMATION~~

XXII. RADAR

NAME	FIELD	LOCATION
BACKHAUS, Hermann	HF Technique	Karlsruhe, Germany Bluecherstr. 14
von HANDEL, Paul Prof. Dr.	HF Radar	Standach/Oberbayern, Germany
HABERLANDT, Dr. Herbert	Radar	Vienna XIX, Austria Gymnasiumstrasse 56/III/14

RDB 117/16

5128.10

Director
Dep. Director
Adm. Offi.
Proc. &
Adm. Asst.
Visual

RESEARCH AND DEVELOPMENT BOARD

RDB Organization and Functions

17 DECEMBER 1952

RESEARCH AND DEVELOPMENT BOARD

15 August 1952

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12. Advis

NATIONAL ACADEMY OF SCIENCES

COPY

52 1762

July 30, 1952

Office of the President
2101 Constitution Avenue
Washington 25, D.C.

Mr. Walter G. Whitman, Chairman
Research and Development Board
Pentagon
Washington 25, D. C.

Attention: Col. G. F. Brown

Dear Mr. Whitman:

In your letter to me of September 14, 1951 you requested that the National Academy of Sciences undertake a review of "Project 63 - Contracting List" which was enclosed with your letter. The performance of this review was authorized as an assigned project under Contract DA-49-025-sc-83 between the National Academy of Sciences and the Department of Defense.

It was stated in the attachment to your letter that the objective of the requested review should be "an advisory recommendation on the value of the scientists named in this list who, because of their professional prominence in their fields, would constitute a security threat to the United States should they fall into the hands of a potential enemy." A further instruction in this attachment stated "Will you add to this list or delete from it such names as you deem appropriate."

The original "Contracting List" was rearranged by us to group the named scientists by the fields of science or technology in which they were indicated as possibly important individuals. For each of the twenty-two resulting categories, a list of referees was established composed of those individual scientists in this country believed to be best able to evaluate the significance of those names from the Contracting List that were in the field of the referee's specialized knowledge and competence.

Based on interviews with 92 individual referees the Contracting List was revised by (1) retention, (2) deletion, and (3) addition of names in the several categories, and is submitted to you enclosed herewith, identified as "Revised List per Academy Survey" as the "advisory recommendation on the value of the scientists named" for the purpose as indicated in your request.

Also enclosed is a "Memorandum on Conduct of Survey and Criteria for Evaluation." It is believed that this will aid in the understanding and utilization of the "Revised List per Academy Survey."

I wish to express to you our appreciation of your loan to us of Mr. Peregrine White of the staff of RDB to conduct in the field many of the interviews with the category referees. He also was of great assistance to us in the correlation of the evaluation and suggestions of the referees.

Sincerely yours,

/s/ DETLEV W. BRONK
Detlev W. Bronk
President

Enclosures:
Revised List, Log 52-698 Copy 1
Memorandum on Conduct of Survey and Criteria for Evaluation

RG-330 Box 8 JCS 501A
190/29/30

For 110A

CONFIDENTIAL

PAPERCLIP STRENGTH REPORT

Date: 19-12-47

ARMY AIR FORCES:				
1. Air Material Command, Wright Field, Dayton, O.	149	118		
a. TDY, Germany.	1	0		
2. Atmospheric Lab, Watson Lab, AMC, Red Bank, N.J.	3	0		
3. Cambridge Field Station, Cambridge, Mass.	2	0		
4. Loewy Hydropress Inc, NYC.	5	9		
5. North American Aviation Inc, Los Angeles, Calif.	7	3		
6. Ohio State University, Columbus, Ohio.	1	3		
7. Optical Research Lab, Boston U., Boston, Mass.	3	1		
8. Randolph Field (AAF School of Aviation Med) Tex.	26	16		
9. Rome Army Air Field, Rome, N. Y.	13	0		
			210	150
CHEMICAL CORPS:				
1. Chemical Division, Technical Command, Army Chemical Center, Edgewood Arsenal, Md.	2	2		
			2	2
ENGINEER BOARD:				
1. Fort Belvoir, Virginia.	6	8		
2. South Post, Fort Myer, Virginia.	2	0		
			8	8
NAVY DEPARTMENT:				
1. Annapolis, Md; US Nav Engr Exper Sta.	2	6		
2. Bethesda, Md; Nav Med Res Inst, Natl Nav Med Cntr	4	5		
3. Bethpage, L.I., N.Y; Buaer Rep, Grumman A/C Corp.	1	0		
4. Chicago, Ill; Insp/Nav Material, Northwestern U.	1	0		
5. Detroit, Mich; Insp of Nav Material.	1	4		
6. Inyokern, Calif; US Nav Ord Test Sta.	3	4		
7. Johnsville, Pa; US Nav Air Dev Sta.	1	4		
8. Lake Hurst, N.J; Nav Air Sta.	3	0		
9. Langely Field, Va; Natl Adv Committee/Aeronautics	1	0		
10. Norris, Tenn; Electro-Tech Lab, US Bureau/Mines.	1	0		
11. New London, Conn; Nav Med Res Lab, US Subm Base.	1	0		
12. New York City; New York University.	1	9		
13. Panama City, Fla; US Nav Countermeasures Sta.	1	3		
14. Pensacola, Fla; US Naval Air Sta.	1	0		
15. Phila, Pa; ITE Circuit Breaker Co.	1	0		
16. Phila, Pa; US Nav Air Material Cntr.	7	12		
17. Phila, Pa; Phila Naval Shipyard	2	0		
18. Point Mugu, Calif; US Nav Air Missile Test Cntr.	10	13		
19. Port Washington, L.I., N.Y; Spec Devices Cntr, ONR	4	7		
20. Portsmouth, Va; Norfolk Nav Shipyard	2	3		
21. San Pedro, Calif; Terminal Island Nav Shipyard.	4	0		
22. State College, Pa; Ord Res Lab, Pa State College.	1	4		
23. White Oak, Md; US Nav Ord Lab.	15	29		
24. Washington, D.C; Naval Barracks.	7	0		
[redacted] a. TDY, Germany	1	0		
			76	94
ORDNANCE DEPARTMENT:				
1. Office of Research & Development Division, Sub-Office (Rocket), Ft Bliss, Texas.	125	234		
a. TDY Germany.	1	0		
			126	234

4306

FILE DIST:
Paperclip Strength Report

CONFIDENTIAL

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For: 110A

[redacted]FIDENTIAL

CONFIDENTIAL

PAPERCLIP STRENGTH REPORT

Date: 19-12-47

ARMY AIR FORCES:				
1. Air Material Command, Wright Field, Dayton, O.	149	118		
a. TDY, Germany.	1	0		
2. Atmospheric Lab, Watson Lab, AMC, Red Bank, N.J.	3	0		
3. Cambridge Field Station, Cambridge, Mass.	2	0		
4. Loewy Hydropress Inc, NYC.	5	9		
5. North American Aviation Inc, Los Angeles, Calif.	7	3		
6. Ohio State University, Columbus, Ohio.	1	3		
7. Optical Research Lab, Boston U., Boston, Mass.	3	1		
8. Randolph Field (AAF School of Aviation Med) Tex.	26	16		
9. Rome Army Air Field, Rome, N. Y.	13	0		
			210	150
CHEMICAL CORPS:				
1. Chemical Division, Technical Command, Army Chemical Center, Edgewood Arsenal, Md.	2	2		
			2	2
ENGINEER BOARD:				
1. Fort Belvoir, Virginia.	6	8		
2. South Post, Fort Myer, Virginia.	2	0		
			8	8
NAVY DEPARTMENT:				
1. Annapolis, Md; US Nav Engr Exper Sta.	2	6		
2. Bethesda, Md; Nav Med Res Inst, Natl Nav Med Cntr.	4	5		
3. Bethpage, L.I., N.Y; BuAer Rep, Grumman A/C Corp.	1	0		
4. Chicago, Ill; Insp/Nav Material, Northwestern U.	1	0		
5. Detroit, Mich; Insp of Nav Material.	1	4		
6. Inyokern, Calif; US Nav Ord Test Sta.	3	4		
7. Johnsville, Pa; US Nav Air Dev Sta.	1	4		
8. Lake Hurst, N.J; Nav Air Sta.	3	0		
9. Langely Field, Va; Natl Adv Committee/Aeronautics	1	0		
10. Norris, Tenn; Electro-Tech Lab, US Bureau/Mines.	1	0		
11. New London, Conn; Nav Med Res Lab, US Subm Base.	1	0		
12. New York City; New York University.	1	0		
13. Panama City, Fla; US Nav Countermeasures Sta.	1	3		
14. Pensacola, Fla; US Naval Air Sta.	1	0		
15. Phila, Pa; ITE Circuit Breaker Co.	1	0		
16. Phila, Pa; US Nav Air Material Cntr.	7	12		
17. Phila, Pa; Phila Naval Shipyard	2	0		
18. Point Magu, Calif; US Nav Air Missile Test Cntr.	10	13		
19. Port Washington, L.I., N.Y; Spec Devices Cntr, ONR	4	7		
20. Portsmouth, Va; Norfolk Nav Shipyard	2	3		
21. San Pedro, Calif; Terminal Island Nav Shipyard.	4	0		
22. State College, Pa; Ord Res Lab, Pa State College.	1	4		
23. White Oak, Md; US Nav Ord Lab.	15	29		
24. Washington, D.C; Naval Barracks.	7	0		
[redacted] 25. TDI, Germany	1	0		
			76	94
ORDNANCE DEPARTMENT:				
1. Office of Research & Development Division, Sub-Office (Rocket), Ft Bliss, Texas.	125	234		
a. TDY Germany	1	0		
			126	234

4306

FILE DIST:
✓ Paperclip Strength Report

~~CONFIDENTIAL~~

SECRET

ER-1-2735

CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D. C.

27 SEP 1950

MEMORANDUM FOR: DIRECTOR, JOINT INTELLIGENCE OBJECTIVES AGENCY, JOINT CHIEFS OF STAFF

SUBJECT: Dossiers on German Scientists and Duplication of Reports

REFERENCE: JIOA 2011, memorandum dated 11 August 1950 from Director, JIOA, to Director of Central Intelligence, subject as above

1. This Agency is in full agreement with JIOA as to the urgent necessity of establishing ways and means for the effective duplication and transmission to Washington of scientific intelligence information now held in Europe under custody of HICOG and the several defense agencies.

2. This problem was considered at a special meeting of the Scientific Intelligence Committee on 1 September 1950, and informal arrangements have been concluded with the Department of State which will provide for duplication and transmission of materials in HICOG and State Department custody.

3. Forwarded herewith, for your information, is a copy of a collection request dispatched by this Agency to the Assistant Chief of Staff, G-2, on 8 September 1950. It states the urgency of the problem, and affirms this Agency's readiness to send a competent biographic specialist to Germany for the purpose of working out arrangements for duplication and transmission of materials in Army custody. G-2 has not as yet replied to the request. When such reply is received, CIA will advise JIOA of the steps being taken.

R. H. HILLENKOETTER
Rear Admiral, USN
Director of Central Intelligence

Encl.
CD No. A-1762.1

CIA Misc.

2418

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NTRAL INTELLIGENCE AGE

2430 "E" STREET, N. W.
WASHINGTON 25, D. C.

Tel. Ex. 6115
Extension 776

In reply refer
to C D No. A-1762.1

SEP 8 9 37 AM '50

DEGREE OF NEED
Urgent X
Great
Standard
TIME OF NEED
Must have by
Strongly desired ~~as soon as possible~~
Early as practicable

MEMORANDUM FOR THE ASSISTANT CHIEF OF STAFF, G-2, GS, USA
Attention: Chief, Collection/Dissemination Branch
Intelligence Division

SUBJECT: Collection Request No. A-1762.1

1. Prompt and effective action is required from the Department of the Army in order to ensure that biographic intelligence on foreign scientists -- intelligence which is now scattered in various files under Army control in Europe -- may not be lost to the United States in the event of Soviet advances in that area.

2. After the end of hostilities in 1945, many different headquarters and commands in Europe commenced the sifting and compiling of biographic data on German and other foreign scientists. Considerable segments of this information have filtered through to Washington in one form or another, and a microfilm copy of the Osenberg file is now available here. It is known, however, that there exist other files under Army control, and that some have been kept as nearly current as has been possible with the personnel and facilities at hand. It appears doubtful that any individual or office in Washington would be able to list and describe all of these files, or to estimate the quantity and value of the information in each.

3. Both the Scientific Intelligence Committee and the Joint Intelligence Objectives Agency of the JCS have emphasized the urgency of getting these several biographic files microfilmed, of incorporating the useful information which they contain in the dossiers maintained by CIA under the provisions of NSCID No. 8, and of making arrangements for the effective transmission to Washington of such increments to the files as may be made on a current basis overseas.

4. Interagency discussions have been held on the subject, but no agreement has been formally reached as to the manner in which effective results are to be obtained. This Agency has offered informally to send a competent biographic specialist to Europe for the purposes a) of surveying the several biographic files, b) of arranging for the microfilming of their current content, and c) of setting up an orderly system for transmissions of future additions to their content.

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NTRAL INTELLIGENCE AGE
2430 "E" STREET, N. W.
WASHINGTON 25, D. C.

Tel. Ex. 6115
Extension 776

In reply refer
to C D No. A-1762.1

DEGREE OF NEED
Urgent
Great
Standard
TIME OF NEED
Must have by
Strongly desired by
Early as practicable

5. It is requested that the Department of the Army either:

a. Signify its readiness to approve the survey and arrangements described in paragraph 4. above, and to issue the credentials necessary to ensure that the CIA biographic specialist will be granted full access to all personality files on foreign scientists in Army custody, or alternatively

b. Give assurance that the necessary survey and reproduction will be commenced by Department of the Army personnel within a specified short-term time limit.

6. In replying to this Collective Directive, kindly refer to CD No. A-1762.1.

FOR THE ASSISTANT DIRECTOR, OFFICE OF COLLECTION & DISSEMINATION:

J. B. WILLIAMS, Cdr., USN
Chief, Liaison Division

JMA/emd 14 Sept. 1950

SECRET

0-8239

CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D. C.

JAN 4 1950

MEMORANDUM FOR THE JOINT CHIEFS OF STAFF

ATTENTION: Director, Joint Intelligence Objectives Agency

SUBJECT: Case of Colonel F. K. DUDZINSKI (File: JIOA 4416)

1. Returned herewith are papers concerning the above subject which were forwarded to this Agency by your memorandum, dated 8 December 1949. The case has been circulated within this Agency and has been subjected to extensive scrutiny. However, we find that at the present time we have no interest in the case.

13(a)(4)
C

2. [redacted]

3. We regret the length of time necessary to screen this case, but we felt it was desirable to give it most careful scrutiny.

FOR THE DIRECTOR OF CENTRAL INTELLIGENCE:

C. L. WINECOFF
Captain, USN
Executive

Encl:
Ltr ref above, w/
encl

FILE DIST:
~~CIA MIBc.~~
DUDZINSKI, Col. F. K.

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ACCESS RESTRICTED

The item identified below has been withdrawn from this file:

File Designation CIA-Misc 1950

Date 50

~~From~~ Entire Folder Partial Folder

~~To~~

In the review of this file this item was removed because access to it is restricted. Restrictions on records in the National Archives are stated in general and specific record group restriction statements which are available for examination. The item identified above has been withdrawn because it contains:

☒ Security-Classified Information

☐ Otherwise Restricted Information

CIA/INTEL
Authority

4 Oct 83
Date
SAA

GENERAL SERVICES ADMINISTRATION

GSA FORM 7117 (2-72)

GPO : 1973 O - 503-659

WITHDRAWAL NOTICE

3. NARA_RG341_E464_Underground_Installation_Program_1946-49.pdf

Original start page:	42	**Inserted note page:**	44	**Archive starts after note:**	45

Why it belongs in this release

Shows postwar planning for dispersed underground manufacturing, storage, shelter, and defense infrastructure, including protection against atomic, gas, bacteriological, sabotage, and aerial detection threats.

Complete release-note text from UAP 4

3. Underground Installation Program, 1946-49.

This is important because it documents a real postwar program to move critical manufacturing, storage, and shelter functions underground. The ANMB directive says the committee’s mission was to foster underground installations for manufacturing, storage of critical items, and shelter, and to coordinate War and Navy planning. Other pages state that underground sites protect against atomic effects, poison gas, bacteriological warfare, sabotage, and detection from the air, and that foreign underground installations should be surveyed. Congress and NARA should map every site, budget line, industry advisory committee, Bureau of Mines study, Army/Navy/Air Force facility, and private contractor connected to this program. For UFO/UAP crash retrieval research, the key question is whether any underground or remote facilities were later repurposed for storage, exploitation, biological containment, or reverse engineering.

Source: UAP 4 - Archives Release Notes(2).docx. This note page was inserted immediately before the archive file.

REFERENCE SERVICE SLIP

DATE: 1-23-06 | NO. 2665

NAME OF REQUESTOR: WOOD [redacted] / Hawiz

AGENCY OR ADDRESS: 068432

UNITS OF SERVICE

INFORMATION SERVICE (Number of replies)		RECORDS FURNISHED (Number of items)	TEXTUAL, STILL PICTURES, ETC. (Number of pages)	MOTION PICTURES (Number of feet)	SOUND RECORDINGS (Number of feet)
WRITTEN	ORAL				
		11			

SOURCE OF REQUEST (Check)

- NA Administrative Use
- Agency of Origin
- Other Government
- Nongovernment

REQUEST HANDLED BY: DMH

RG NO.	STACK AREA	ROW	COMPARTMENT	SHELF	OUTCARD NO.
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DAILY LOG

1. A representative of this office attended the Army & Navy Munitions Board Underground Sites Committee meeting held on 23 August 1946. In order to obtain the advantages of Underground Sites at the earliest practicable date as an element of national security, the Underground Sites Committee has made the recommendation to the A & NMB that the A & NMB make a request to the War and Navy Departments for current funds as may be available and for a substantial amount to be included in the 1948 fiscal budget.

2. A report of a sub-committee was received, adopted and forwarded to the A & NMB. An extract from the report of the conclusions drawn and the recommendations follows:

CONCLUSIONS: On the basis of data thus far obtained the Underground Sites Committee has arrived at the following conclusions:

That underground sites afford superior and continuously effective protection to the nation in an atomic age for military and civilian requirements.

That underground sites of suitable characteristics for nearly any required use exist in large numbers well dispersed throughout the United States.

That the nature and distribution of underground sites would afford a sense of security which would strengthen and improve the national morale in the fears of an atomic age. The improved morale, especially among war workers, will be an important factor in war productio

That underground sites facilities can be provided at cost lower than comparable facilities above ground in an atomic age.

That to be effective in a future war, such facilities must be actually established and plans for future conversion completed in advance.

That the considerations above-mentioned warrant immediate specific action in order to secure their advantages.

RECOMMENDATIONS - As immediate steps toward the goal of providing underground sites for national defense, it is recommended that:

In order to initiate the study of industries with respect to their adaptability for location in underground sites the Underground Sites Committee be authorized to contact members of the Anti-Friction Bearing Manufacturers Association.

The Board request the Commandant of the Industrial College of the Armed Forces to devote one session of a seminar of the Anti-Friction Bearing Manufacturers Industry Advisory Committee which is scheduled for 24 Sept 1946 to a discussion of underground sites and their relation to that industry.

The Army and Navy Munitions Board take action to have the proposed disposal of storage facilities at Atchison, Kansas, by War Assets Administration, examined with view to holding them for military uses. This recommendation is based on Exhibit B.

The Army and Navy Munitions Board recommend to War and Navy Departments that any facilities on shore have consideration as appropriate with respect to their installation underground.

If the A & NMB considers a public release on the matter of underground sites to be necessary or desirable, the items stated under CONCLUSIONS above, be used as a basis.

(Major T. G. Baptist, Ext. 3618 or 73919)

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CONFIDENTIAL

Underground Sites

ARMY-NAVY MUNITIONS BOARD
Underground Sites Committee

14 February 1947

TO: Brig. Gen. Edw. B. McKinley
Commandant, Industrial College of the Armed Services
Army War College

SUBJECT: Data Concerning Underground Sites

1. The attached paper sets forth certain topics and items that are scheduled to be considered by the ANMB Underground Sites Committee. This data is furnished, since it is known that you are particularly interested in the subject of underground sites.

2. It occurred to the undersigned that you might like to assign, purely from an academic standpoint, a project for developing topics and items that should be considered in this field. The Committee would be very glad to get any thoughts that you, your students, or instructors might develop in line with the attached paper.

3. There is inclosed also a study entitled "Industrial Planning Project - A Recommended Program For The Underground Manufacture Of Aircraft (Initial Phase).", that may be useful in your library for reference purposes.

JOHN C. VAUGHAN
Chairman, Underground
Sites Committee
Army-Navy Munitions Board

Incl:
Ind.Plan.Project
Agenda

Maloney
for Claims
file

CONFIDENTIAL

S E C R E T

Col Eckert

File

3 February 1947

MEMORANDUM FOR: Major General E. M. Powers

SUBJECT: Long Range Underground Sites Program

1. The success of an overall long range underground sites program is dependent upon many factors. Industry cannot be expected to pioneer and take the initiative in this field in every respect -- impetus and help must come from the Government. A hampering factor in an industry-wide program is, of course, a matter of cost. An extensive program will be costly. Another factor which causes a hesitancy on the part of industry to consider such a venture is that there are many problems relative to underground manufacture yet unsolved. (The Army Air Forces project for establishing a pilot underground installation to serve as a laboratory to provide experience and technical data relative to underground manufacture will in time afford an answer to many of the problems regarding actual manufacture.)

2. It is the considered opinion of the undersigned that it will be vital to have underground sites on M-Day for protection of industry, and supporting elements. To be effective in any future war some underground facilities must be actually established and plans for future conversion or construction for others completed in advance. (Some sites in existence and plans and blueprints laid out for others.) This problem is recognized in an "Economic Military Study" now being conducted by the War Department on reference to the Chief of Staff by Senator Downey. (A highly classified problem.)

3. A suggested approach, as one element, to the establishment of a long range underground sites program is a Federal subsidy to municipalities for the construction of underground parking facilities for automobiles. The facilities could be constructed so as to be adaptable to manufacturing purposes in case of an emergency. It is believed that the revenue from such a project would sustain the project and eventually offset the cost of such a venture.

4. If you endorse such an idea as set forth in paragraph 3 above, this matter will be taken up with the Army-Navy Munitions Board through the Underground Sites Committee. (The Civil Defense Board, Bull Board, will also be acquainted with this suggestion.) The Army-Navy Munitions Board could sponsor legislation and if enacted the Reconstruction Finance Corporation could finance this venture. It is felt that this is a most worthwhile project and if ultimately initiated, it is believed, it will afford an inestimable contribution to national security.

Don't agree with par 3
OK for pilot plant
Production plants P

William D. Eckert
WILLIAM D. ECKERT
Colonel, Air Corps
Chief, Readjustment and Procurement Division
OAC/AS-4

S E C R E T

SECRET

Date

23 January 1947

Presented by:

War Department

ACC No. ____ Page 1

Title:

Problem

To acquaint the Air Coordinating Committee with a program for establishing a pilot underground industrial installation to serve as a laboratory to provide experience and technical data relative to underground manufacture; to obtain suggestions and recommendations from the Air Coordinating Committee relative to the overall problem and in furtherance of the project; to obtain active support from the Air Coordinating Committee in connection with securing funds necessary to accomplish Phase II of the program.

Discussion

With the growing importance of air power and the advent of new weapons the need for greater passive defense of industry in time of war is readily apparent. As a part of the Army Air Forces industrial planning program a great deal of thought and research has been given to this subject. Attached is a study (~~Inclosure #2~~ Annex #1) concerning the problem of protecting American industrial production against any subsequent enemy attack this country may be subjected to, and addressing itself specifically to the topic of underground manufacture of aircraft and related problems. The study has been used as a basis for initiating what has been termed Phase I of a program which embodies the study of the problems involved in constructing a pilot installation underground, including such matters as the determination of a site, preparation of preliminary specifications, and the employment of a reputable firm of industrial architects to furnish cost estimates with

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Refer to
ANMB 619.5

ARMY AND NAVY MUNITIONS BOARD
WASHINGTON, D. C.

Underground plants

23 DEC 1946

MEMORANDUM FOR E. M. POWERS, MAJOR GENERAL, USA
ASSISTANT CHIEF OF AIR STAFF

SUBJECT: Proposed pilot installation underground for manufacturing of aircraft.

1. In answer to your letter of 3 December 1946, the Army and Navy Munitions Board notes with interest the proposal to construct a pilot installation underground for the manufacturing of aircraft.

2. As this is a new and revolutionary idea in plant construction in the United States, it is understandable that business would hesitate to take the initiative at a time when we may be considered to be in no immediate danger of attack. However, it is my belief that the proposed project would resolve many problems in this type of construction and stimulate a general interest on the part of business in this invaluable contribution to the national defense.

3. The Board concurs in your decision to establish a pilot installation underground in furthering this form of passive defense.

RICHARD R. DEUPREE
Executive Chairman

1) Idea of Pilot Plant - Serve as a lab - to show how best underground
2) Pioneer lead way

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7 December 194[illegible]

Industrial Planning Project – "A Recommended Program for the Underground Manufacture of Aircraft (Initial Phase)".

Chairman, Underground Sites Committee,
Army-Navy Munitions Board,
Attn: Capt. A. B. Taylor, USNR
Navy Bldg., Rm [illegible]

1. Attached hereto are five copies of a report concerning the problem of protecting American industrial production against any enemy attack this country may be subjected to [illegible] the [illegible] to the topic of underground manufacture. The report was prepared in connection with the industrial planning work of this office and has been approved by this Headquarters for planning purposes.

2. It is suggested that these reports be made available to the various members of the Committee for study and review. Following such review and study certain recommendations will be made by this office for consideration by the Committee.

FOR THE COMMANDING GENERAL, ARMY AIR FORCES:

WILLIAM D. ECKERT
Colonel, Air Corps
Chief, Readjustment and
Procurement Division,
OAC/AS-4

Incl:
Report (5 cys)

AFDRP-3
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SUMMARY

A Recommended Program for the Underground Manufacture of Aircraft.

(Initial Phase)

I. Statement of the Problem:

In an era in which the industrial resources of a nation may be subjected to sudden air attack with bombs of tremendous and increasing power, it is imperative to provide the maximum possible protection to the country's production facilities. Use of underground sites represents one of the important means of obtaining this protection. Inasmuch as the Germans appear to have made the most extensive use of these types of facilities, this Command, within the limits of the data available to it, has made a comprehensive study of German experience. No attempt, however, has been made to evaluate the effectiveness of an underground manufacturing system against the atomic bomb. Such an evaluation must be made by those most familiar with the nature and characteristics of this new weapon. The recommendations embodied in this report represent the initial phase in the development of a comprehensive plan for the underground manufacture of aircraft in the event of a future emergency.

II. Principal Conclusions:

A. Completely underground facilities are considered one of the most effective means for protecting aircraft production against air attacks of the type mounted in World War II.

B. German experience clearly indicates that plans for the execution of an underground program must be formulated well in advance of an emergency in order to assure that the program will be implemented effectively should the need arise.

C. Virtually every phase of aircraft production may be successfully shifted underground, with the probable exception of final assembly of the large aircraft.

D. For maximum security, it is essential to make the underground facility as self-contained as possible by protecting supporting activities, such as utilities, transportation, worker housing, forge and foundry shops, etc.

E. Underground manufacturing facilities constructed in new excavations are likely to prove more suitable than those adapted from caves, mines or tunnels.

F. First hand experience in construction and operation of an underground manufacturing facility is essential before a full understanding of the problems involved and their possible solutions can be obtained.

G. Extensive tests of the atomic bomb against land targets will have to be made before its effectiveness against underground plants can be determined.

III. Principal Recommendations:

A. That, as part of an overall program for building a pilot underground plant to serve as a laboratory to solve the many problems involved in underground manufacturing operations, the following initial step be taken: Headquarters AAF authorize this Command to initiate a study of the problems involved in constructing a pilot underground plant, including such phases of the problems as: selection of a site; preparation of preliminary specifications; and the employment of a reputable firm of industrial architects to furnish cost estimates with respect to the construction of a plant meeting these specifications.

B. That the Army Air Forces conduct experiments to determine the effectiveness of subterranean installations against the atomic bomb. For these tests, small underground units developed from existing sites could be used, and it will not be necessary to construct or use complete underground factories.

C. That, on the basis of the preceding two programs, a comprehensive plan for underground manufacturing be developed for adoption in the event of a future emergency, and that this plan be implemented during the peace years to the extent permitted by available appropriations.

D. That a complete catalogue of existing and potential underground sites for use in a possible emergency be maintained at all times and that each Service participate directly in the overall program for underground manufacturing as developed by the Army-Navy Munitions Board by studying the problems peculiar to its own type of production operations.

Prepared by:

Industrial Planning Section
Logistics Planning Division, Plans (T-5)
Air Materiel Command, Army Air Forces
Wright Field, Dayton, Ohio

RESTRICTED

SUMMARY

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Prepared by:

Industrial Planning Section
Logistics Planning Division, Plans (T-5)
Air Materiel Command, Army Air Forces
Wright Field, Dayton, Ohio

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File

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Prepared by:

Industrial Planning Section
Logistics Planning Division, Plans (T-5)
Air Material Command, Army Air Forces
Wright Field, Dayton, Ohio

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UNDERGROUND SITES COMMITTEE OF ANMB
23 August 1946

SUBJECT: Action Recommended to ANMB with Respect to Underground Sites

EXHIBIT A - ANMB Order No. 16 of 26 Feb 1946
EXHIBIT B - Natural Cooler Food Storage Plant, Atchison, Kan.

CONCLUSIONS - On the basis of data thus far obtained the Underground Sites Committee has arrived at the following conclusions:

1. That underground sites afford superior and continuously effective protection to the nation in an atomic age for military and civilian requirements.

2. That underground sites of suitable characteristics for nearly any required use exist in large numbers well dispersed throughout the United States.

3. That the nature and distribution of underground sites would afford a sense of security which would strengthen and improve the national morale in the fears of an atomic age. The improved morale, especially among war workers, will be an important factor in war production.

4. That underground sites facilities can be provided at cost lower than comparable facilities above ground in an atomic age.

5. That to be effective in a future war, such facilities must be actually established and plans for future conversion completed in advance.

6. That the considerations above-mentioned warrant immediate specific action in order to secure their advantages.

RECOMMENDATIONS - As immediate steps toward the goal of providing underground sites for national defense, it is recommended that:

1. In order to initiate the study of industries with respect to their adaptability for location in underground sites the Underground Sites Committee be authorized to contact members of the Anti-Friction Bearing Manufacturers Association.

2. The Board request the Commandant of the Industrial College of the Armed Forces to devote one session of a seminar of the Anti-Friction Bearing Manufacturers Industry Advisory Committee which is scheduled for 24 Sept 1946 to a discussion of underground sites and their relation to that industry.

3. The Army and Navy Munitions Board take action to have the proposed disposal of the storage facilities at Atchison, Kansas, by War Assets Administration, examined with a view to holding them for military uses. This recommendation is based upon Exhibit B.

4. The Army and Navy Munitions Board recommend to War and Navy Departments that any new facilities on shore have consideration as appropriate to with respect to their installation underground.

5. If the ANMB considers a public release on the matter of underground sites to be necessary or desirable, the items stated under CONCLUSIONS above, be used as a basis.

UNDERGROUND SITES COMMITTEE OF ANMB
23 August 1946

Subject: Action recommended to ANMB with respect to underground sites.

Exhibit A - ANMB Order No. 16 of 26 February 1946
Exhibit B - Natural Cooler Food Storage Plant, Atchison, Kansas, (Plancor 2299)
Exhibit C - The Bousan Limestone Mine, Lomay, Missouri, 17 Feb. 1946
Exhibit D - Report on Limestone and Sandstone Mines, etc., by Arthur D. Little, Inc., 15 May 1946

INTRODUCTION

During World War II and probably earlier, various organizations within the Armed Services and in other government agencies conducted studies of underground sites for storage and other uses as a protection against bombing. These studies were in general uncoordinated. Most of the agencies involved contacted the Bureau of Mines as a logical source of information. That Bureau, recognizing the need for coordination, suggested that the studies be combined. As a result there was formed under the ANMB an Underground Sites Committee to make this study for all the Armed Services. This committee was formed on 26 February 1946. A copy of the implementing order is attached as Exhibit A.

Operating under this order and the subsequent directive of 11 March 1946, the committee has examined the general requirements of underground sites, the advantages to be realized, the general availability, the method of conducting surveys and the adaptability to storage and manufacturing facilities. The survey of sites is being conducted under the immediate direction of the Chief of Engineers, War Department, in general accord with questionnaires prepared by the committee. Concurrently there should be considered the adaptability of specific storage facilities and of facilities critical to the production of war material. The committee has prepared a format for studies of manufacturing facilities but these studies will require the cooperation of industry committees. It, therefore, is necessary to present to them a statement of the problem, to outline the advantages that may be realized apart from the necessity for protection and to make arrangements for their active cooperation with the work of the ANMB in this phase of industrial mobilization planning. Until such arrangements are made the Underground Sites Committee is hampered in accomplishing the assigned mission.

REASONS FOR CONSIDERATION OF UNDERGROUND SITES

The Army and Navy Munitions Board is the agency of the President to formulate plans for industrial mobilization. The implementation of these plans imposes important duties on the War and Navy Departments. It is generally accepted that another war may be initiated with an unheralded attack by rockets, bombs, and guided missiles, including those of atomic variety. There probably willbe no chance to build up resources or to make plans before feeling the effect of a full scale attack. Therefore, it will be necessary to be able to withstand and recover quickly from the initial attack, which maybe devastating. The damage would be concentrated in the most populous and industrially strategic

areas. Members of the ANMB will have a better knowledge of the probable extent of the damage and number of casualties than is available to members of the Underground Sites Committee. The defense against such attack must be provided in advance, and it must be continuously effective without the necessity of alerts or intelligence of enemy intentions. The United States Strategic Bombing Survey showed the effectiveness of underground installations in Germany against bombing attack. There was practically no damage to any underground site from bombings in areas where surface installations were almost completely wiped out. This form of protection therefore deserves the most careful consideration as an element of national security.

ADVANTAGES OF UNDERGROUND SITES

(a) Protection. Underground sites afford protection against the following:

1. Bombing and bombardment
2. The radioactive effects of atomic bombs
3. Poison gas
4. Bacteriological warfare
5. Sabotage (Minimum of guards required)
6. Detection from the air. (Camouflage and blackout are relatively easy)
7. Earthquakes
8. Hurricanes, tornadoes, hail, electrical storms and similar phenomena of the elements.

(b) Morale

1. Working conditions are uniform. In general the most desirable conditions can be provided.

2. For those accustomed to working underground it may be said that a real feeling of security is experienced in such a location. In any situation where an area may be subject to bombing or poison gas or bacteriological warfare attack there would be a considerable degree of satisfaction in working in such a protected location.

3. After an initial attack or the experience of a single atomic bomb, it can be expected that every underground installation will be a very popular place for work. Absenteeism would be at a minimum.

4. Underground installations afford good shelter areas for population who may live in the vicinity.

5. Mines usually exist in hilly or mountainous country and surface dwellings are afforded a considerable degree of protection from bombing as was the case at Nagasaki.

(c) Geographical Location and Physical Features.

1. Records from the Bureau of Mines show that there exists in the United States approximately 7,000 bituminous mines in 31 states and

about 6,000 metallic and non-metallic mines in 38 states. In addition there are thousands of caves. In general caves are not suitable for underground installations because of their size, odd shape and inaccessibility, but underground workings in great number are located throughout the United States and permit a selection within reasonable distance for nearly any use desired. Many of these mines are now abandoned. Others have spaces in which mining operations have ceased and which can be adapted for military or commercial uses. Of the potential sites indicated above the Corps of Engineers submitted a plan for the initial survey of 1,000 sites selected by division engineers in the ten engineering districts of the United States. (The actual extent and nature of the surveys to be conducted will depend upon the availability of funds and personnel.)

2. There is a considerable number of limestone, sandstone, salt, and gypsum mines well distributed throughout the country, which are particularly suitable for underground installations. These mines have chambers varying from 12 ft. to 160 ft. in height. Total floor area in many cases exceeds 1,000,000 sq. ft. For example, the limestone mine at Wampum, Pa. has a floor area of 4,000,000 sq. ft. with height of chambers 16 ft. to 18 ft. This site is located almost midway between Pittsburgh, Pa., and Youngstown, Ohio, and is therefore both militarily and economically well located.

3. Many of these mines are clean and dry. The temperature is generally uniform, in many cases varying only as much as 5 to 10 degrees throughout the year. Average temperatures are of the order 60 degrees F. Humidity may be moderate or may be even less than that on the surface. In any case, because of the excellent natural insulation and the uniformity of conditions, air conditioning can be accomplished at relatively small cost.

4. At existing workings transportation and light, power, gas, water and other utilities are generally available.

(d) Economic

1. The cost of underground installations, contrary to common belief, is generally no more and may be substantially less than that of surface installations. The cost of adapting underground workings for storage or manufacturing will in part vary according to requirements, as indicated below:

(a) To store material already packaged for protection against the elements many underground workings may be used with practically no modification.

(b) To store material that requires average atmospheric conditions and handling facilities, necessary modifications can be provided at very minor cost.

(c) To store material such as perishable foods or to provide certain manufacturing conditions considerable additional facilities comparable to those of surface installations will be required.

(d) For certain manufacturing operations major changes in design of facilities may be required to permit installation underground. Special provisions for supply of water, for control of atmospheric conditions and disposal of waste may have to be provided. In such cases the cost may be great.

In general limestone, sandstone, salt, and gypsum mines may very readily be adapted to uses outlined above.

2. The Bureau of Mines officials state that it may be feasible to plan the excavations in mine operations to provide space as desired. Long-range planning should take advantage of this. The cost of underground installations so provided may be very small indeed. For example, the Bureau of Mines is at present engaged in a project of developing the vast deposits of oil-bearing shale in the vicinity of Rifle, Colo. The excavations can be planned to provide nearly any shape and size of space desired.

3. Where suitable sites do not exist in localities desired, it may be possible to create them at a cost less than that of providing similar space above ground. The cost of excavating space underground may vary from 10 to 40 cents per cubic foot, depending on the geological formation and the accessibility. The space may be suitably finished and service facilities provided at an additional cost of 10 to 20 cents per cubic foot. Total cost of usable space therefore could be 20 to 60 cents per cubic foot. This compares with estimates of 40 to 50 cents per cubic foot for equivalent space in industrial type steel or masonry buildings.

4. Bomb-proof structures on the surface may cost 10 to 20 times that of underground spaces. Even so such structures will not provide protection equal to that of underground sites.

5. The usual availability of transportation and industrial utilities obviates large expenditures for providing such facilities at existing workings.

6. Very definitely therefore underground sites may be considered from the standpoint of economy as well as that of the protection afforded.

EXHIBITS: Exhibit A is referred to in the INTRODUCTION
Exhibit B is attached in connection with RECOMMENDATIONS
Exhibits C and D are attached as examples of reports already made on specific existing sites.

The Bousan Limestone Mine.
(Report by Dr. Lewis F. Thomas, expert consultant to the Industrial College of the Army Forces, Washington, D. C., as of 11 February 1946)

The general location of the mine is shown as No. 1, Fig. 1, and the immediate vicinity is shown in Fig. 2. It is owned and operated by the Bussen Quarries, Inc., Route 9, Lemay, Missouri.

Location. Bousan Mine is located on the right or Missouri Bank of the Mississippi River just 10 miles downstream from Eads Bridge in Downtown St. Louis. It requires a 30 minute drive through city traffic over a 12 mile route. It is one-half mile south of Jefferson Barracks with Koch Hospital in between Fig. 2.

Property Site . The property faces the Mississippi River with a bluff some 60 feet high which rises precipitously from the banks of the river. The Missouri Division of the Missouri Pacific Railroad tracks are on a right of way blasted at the base of the bluff but well above high flood stages of the river, Fig. 3. A deep ravine borders the property on the south and a smaller ravine occupies the northern part of the property. The rounded upland has been cleared and is farmland.

Transportation. A double siding about 700 feet long, connected at both ends with the mainline tracks, services the mine, Fig. 4. The floor of the mine is level and about six feet above the elevation of the mainline tracks. Fig. 5. The siding could be relocated or an additional siding track could be laid through the mine and connected with the mainline at the southern edge of the property, a total distance of about 700 feet. According to Missouri Pacific officials this track would cost $5.00 per lineal foot or $3500.00. This would provide loading and unloading platforms within the mine. Other tracks could be laid to every part of the mine if desired, Fig. 6. The uniform ceiling height of 28 feet is more than ample for the 22 feet clearance required by law for the operation of trains in the mine.

The Mississippi River barge channel impinges on the solid limestone bank and thus provides a permanent landing site to which materiel could be barged, practically to the entrances of the mine, not more than 200 feet. Traveling crane facilities could be constructed which could lift the materiel from the wharf and lower it at the mine entrance.

The Metropolitan St. Louis outer-belt boulevard is just one-half mile to the north and makes possible access to the entire metropolitan area on both sides of the river via the new Lindberg Bridge, Fig. 2. If the property is used for materiel manufacturers, the road from Lindberg Boulevard to the mine should be straightened and widened.

Lindberg Boulevard provides an excellent route to Lambert- St. Louis Municipal Airport which is located about 25 miles to the north. It also provides a direct route to Parks Air College airport on the East Side about 8 miles northeast of the mine, Fig. 1.

Part of
EXHIBIT C

Accessibility of Underground Workings. There are four entrances facing east to the railroad siding and one facing south. These entrances are 25 feet wide and 28 feet high, Fig. 7. The floor of the mine is level and trucks can operate to every part of the mine, Fig. 8

Pattern of Mine Workings. The pattern of the mine workings is room and pillar. The openings average 40 to 50 feet in width, Figs. 9, 10, and 11. The pillars average 20 feet by 25 feet and occupy about 35 percent of the area.

Ceiling Height. The workings have developed a uniform ceiling height of 28 feet. This feature makes it possible to store large items of materiel.

Space Available. The underground workings spread out in a crude fan-shape with a radius of about 900 feet. It is estimated that these workings involve about 637,425 square feet. By deducting 129,079 square feet in columns, there remains about 508,346 square feet of floor space available. Since storage involves volume, the ceiling height of 28 feet gives 14,233,968 cubic feet of storage space available. This is about 12 acres of floor space.

Roof and Cover. The roof of the Bousan Mine consists of 28 feet of solid limestone plus 30 feet of loessial clay. Over one part of the mine is a sinkhole which collects and focuses storm water on one part of the mine, some surface water during rains. It seems entirely feasible to plug and fill this small sinkhole and render the mine free from such moisture.

The St. Louis formation is for the most part a very compact, dense limestone, some beds being almost lithographic in texture, with conchoidal or splintery fracture. It includes some dense compact gray chart in lenses or in nodules. Some layers are argillaceous but not enough to cause the limestone from this quarry to fail the State Highway specifications. There has been also some dolomitization, but not enough to produce dolomite. Some layers are definitely crystalline. As a consequence, the walls, ceiling and floor of the mine are a clean-looking, sparkling gray color.

Humidity. Due to the fact that the hot air of summer has at times a high absolute humidity, and due to the fact that when this air is drawn into the mine the coolness of the mine condenses the moisture, it results in a high relative humidity. If there were more cross currents of air, which could be easily possible by cutting more openings to the adjacent ravines, the condensation would not take place and the mine would be thoroughly dry. In winter the cold air does not contain much absolute humidity, and when the air enters the relatively warmer mine, the relative humidity decreases and the air is dry. The average temperature is approximately 60 degrees Fahrenheit per annum, with practically no daily range and very slight, if any, seasonal range.

Power. A high power electric line runs into the mine from the Union Electric Company of Missouri System. Electric lights are installed throughout the mine. Motors could be installed, if necessary.

Fuel. Coal can be barged or ferried or brought by rail to the mine from the Kentucky-West Virginia, or Illinois coal fields. A 22-inch pipe line of the Mississippi River Fuel Corporation is laid along the south property line carrying natural gas from the Louisiana-Arkansas Fields to Metropolitan St. Louis. In case it should be found desirable to provide warmer temperatures by heaters in the mine to lower the relative humidity, this pipe line could be tapped.

Military Security. The proximity of Jefferson Barracks, just one-half mile, renders the property practically within the patrol area, and therefore easy to detail guards for the mine, if necessary, without setting up special barracks and military administration.

Lease Rates. As stated in the attached letter the Bussen Quarries, Inc., have indicated their willingness to lease the mine to the government at a rate of $.03 per square foot per annum, or $15,240.00 per annum. A real estate subsidiary of the quarry company owns some 200 acres of land, so that his mine could be turned over to the government, and they could open another mine.

RESTRICTED

25 April 1946

MEMORANDUM FOR: Chairman, Underground Sites Committee
Army-Navy Munitions Board

SUBJECT: Recommendation of Subcommittee on Study of Degree of Protection Against Bombing Afforded by Underground Workings

1. It is recommended that the minimum overburden for any underground site be 200 feet. No present day bomb or missile can damage an underground site with this amount of overburden. However, with the development of atomic weapons it is felt that the Office of the Chief of Engineers should be requested, through Col. Corr, ASF, to obtain from the Manhattan District a minimum figure on the overburden required to insure 100 percent protection of underground sites from atomic attack. Today, 200 feet of overburden will give 100 percent protection of underground sites to any air attack using orthodox explosives.

2. This recommendation will permit the Corps of Engineers to go ahead with the compilation of underground sites, ruling out at the start all sites with less than 200 feet of overburden.

3. It is also recommended that combination drift-shaft entrances be utilized for access rather than only vertical shafts and that these entrances be well protected and camouflaged.

4. More than one entrance to any site is recommended to lessen the possibility of the site being closed by any single attack. If a combination drift-shaft entrance is used, there should be more than one drift leading to the shaft entrance.

5. The above recommendations were reached after an examination of the records of the U. S. Strategic Bombing Survey (Europe) and A-2 on Underground Sites in Germany.

J. C. VAUGHAN
Colonel, Air Corps

E. D. STANLEY, JR.
Commander, USNR

RESTRICTED RESTRICTED RESTRICTED

THE WHITE HOUSE
WASHINGTON

July 10, 1947

Dear Mr. Deupree:

Mr. Clifford handed me your letter of June thirtieth, together with the memorandum on the policy adopted by the Army and Navy Munitions Board. I am in hearty accord with the policy. It seems to me to be just good common sense.

Again I want to express regret at your having to leave the Board but I am hoping that you will favor me with your ideas as occasions arise and that you will be willing to serve on temporary boards as long as I am here.

Sincerely yours,

Harry Truman

Honorable Richard R. Deupree
Executive Chairman
Army and Navy Munitions Board
Washington, D. C.

5685
JR

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Executive Chairman
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Washington, D. C.

CONFIDENTIAL Do not type over

ARMY-NAVY MUNITIONS BOARD
Washington, D. C.

ANMB DIRECTIVE #2

TO: ANMB Underground Sites Committee

1. The purpose of this Directive is to delineate the mission and scope of the Underground Sites Committee and to restate, clarify, and make more inclusive the functions of the Committee.

MISSION: To foster and further the utilization of underground installations, as a national passive defense measure; to continually study the problem of the utilization of underground installations for manufacturing, for storage of critical items, and for shelter purposes; to establish and coordinate pplicy governing the planning of the War and Navy Departments concerning the use of underground installations.

SCOPE: The consideration of new sites as well as existing sites come within the purview of the Committee.

FUNCTION: In order to prepare for any future requirements for use of underground facilities in defense against enemy action, the Underground Sites Committee is directed:

a. To coordinate policies governing planning relative to the use of underground installations.

b. To formulate and furnish recommendations to the Board, from time to time, which have for their purpose furthering the movement underground.

c. To develop through contact with the various Army-Navy Munitions Board Industry Advisory Committees the peculiar pboblems incident to underground manufacture; to analyze these problems and to

recommend steps and designate agencies to further pursue these problems for the purpose of furnishing solutions.

d. To study and recommend a priority for placing industry underground.

e. To consider the practicability of allocating existing undergfound sites.

f. To consider and recommend as to the desirability of sending a mission to survey foreign underground installations.

g. To consider and recommend as to the desirability of laying out and charting locations that would be geologically favorable to construction of underground installations.

2. This Directive becomes effective as of this date and supersedes ANMB Directive No. 1, 11 March 1946.

EXECUTIVE CHAIRMAN, ANMB

DEPARTMENT OF THE AIR FORCE
[redacted]

AFMIP-3
TGBaptist/sbk
3618

SUBJECT: Data on Potential Underground Sites in the Vicinity of Kansas City, Missouri

COMMENT NO. 1

To: Chief of Engineers — From: Proc & Indus Plng SPCS/B — 25 March 1948 [redacted]

Pursuant to telephone conversation between representative of this service and a representative of your office, [illegible] concerning potential underground sites in the vicinity of Kansas City, [illegible] northeast of Kansas City along the North bank of the Missouri River.

FOR THE CHIEF OF STAFF:

Incl:
Cy of ltr to Air Aide to the President dtd 19 March 1948 w/incls

ALFRED A. KESSLER, JR.
Brigadier General, USAF
Director, Procurement and Industrial Planning
Office, Deputy Chief of Staff, Materiel

HQ USAF
26 MAR 1948
OAG-MAIL BRANCH

AFMIP-3 TGBaptist — AFMIP-1 LtCol [illegible] Osborne

Special Report on Inspection Visits to Various Targets, 10 July 45, USSBS

Page 13, p. 2 - Mittelwerke GMBH Factory near Nordhausen
factory just under 1,000,000 sq. ft.
two tunnels, approx 30' wide extending under hill about a mile,
forty cross "halls" (Connected two main corriders) 36' wide
(x500' long), two tunnels 500' apart.

"This arrangement actually can be planned for mass production effectively. Raw materials and parts constructed at feeder plants could be delivered in one corrider in the proper sequence, processed in the cross chambers and assembled on moving line in the other corridor. This scheme was not followed very closely however, due possibly to the fact that several different assemblies were manufactured there. These consisted of V-1s, V-2s, Jumkers 87 engines and a start on the production of power units for V-1s, although these were not seen by the USSBS party."

Para. 3. - "The V-1s were constructed on two moving lines having some fifty stations on each. A large amount of sub-assemblies serving these units was fabricated elsewhere so that assembly only occurred in this factory. The claimed production of 2,000 units per month appeared reasonable to attainment."

Para. 4. - "A large proportion of the factory was used for the manufacture of V-2s. Most of the rocket power unit was fabricated elsewhere with final assembly and fabrication of the fuselage and tail units carried out at Mittelwerke. The factory was well equipped with machine tools for the purpose with a very well set up assembly line for the rocket power unit. Current output at the conclusion of the war was -- 10-20 per day -- possibly 400 a month -- with capacity at 20 per day -- 900-1000 per month.

10 July 1945 - Special Report USSBS

Photographs

Page 14. No. 1 - Entrance - adit- hillside - tree covered surface
No. 2 - Interior view in cross hall
No. 3 - Entrance - rear
No. 4 - Tail units (dismarled)
No. 5 - Crank cases
No. 6 - power units (V-2)
No. 7 - Tail units