ENGINEERING EXPERIMENT STATION

Georgia Institute of Technology

PROJECT INITIATION

Date July 5, 1961

PROJECT TITLE: Equipment for Basic Research in Materials

PROJECT NO: D-213

PROJECT DIRECTOR: R. A. Young

SPONSOR: Ordnance Materials Research Office, Watertown Arsenal

EFFECTIVE: 6-27-61 ESTIMATED TO RUN UNTIL: 6-30-62

TYPE AGREEMENT: Grant No. DA-ORD-19-066-61-G45

Amount $28,000.00

Reports: Semi-Annual) Original and four
Final Report) Copies to the Sponsor

Contact Person: Ordnance Materials Research Office
Watertown Arsenal
Watertown 72, Mass.

Attn: Mr. M. L. Reed
Assistant Director

Assigned to Physical Sciences Divsion

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- [ ] Director
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ENGINEERING EXPERIMENT STATION

Georgia Institute of Technology

PROJECT TERMINATION

Date August 21, 1962

PROJECT TITLE: Equipment for Basic Research in Materials

PROJECT NO: B-213

PROJECT DIRECTOR: Dr. R. A. Young

SPONSOR: Ordnance Materials Research Office, Watertown Arsenal

TERMINATION EFFECTIVE: 8-20-62

CHARGES SHOULD CLEAR ACCOUNTING BY: All acceptable charges have cleared

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Form EES 402 (R1–57)

B-213

GEORGIA INSTITUTE OF TECHNOLOGY
ENGINEERING EXPERIMENT STATION
ATLANTA 13, GEORGIA

September 20, 1962

Ordnance Materials Research Office
Watertown Arsenal
Watertown 72, Massachusetts

Attention: Mr. N. L. Reed, Assistant Director

Subject: Final Report Grant No. DA-ORD-19-066-61-G45

Dear Sir:

The following items of equipment have been procured from funds provided by Research Grant No. DA-ORD-19-066-61-G45.

ITEM 1.

1 Only Constant Potential X-ray Generator, $4,600.00
Comprising:
1 Control, Ser. No. 61-121
1 C.P. Transformer, Ser. No. 61-106
2 Rectifier Valve Tube, Ser. No. H52039 & H44302

ITEM 2.

1 Only X-Ray Diffractometer 3,200.00
Comprising:
1 Goniometer, Ser. No. 61-112
1 Conversion Kit

ITEM 3.

1 Only X-Ray Spectrograph, Ser. No. 61-122 3,975.00
Including:
1 Adaption Kit
1 Alignment Tool
1 10' Cable for FA-60 Tube
1 Manual 38

REVIEW
PATENT 10-2 19 62 BY
FORMAT ✓ 19 BY

ITEM 15.

1 Only Horizontal Diffractometer, RCA, (Siemens) 2,150.00

ITEM 16.

1 Only Single Crystal Orienter ("Goniostat") 2,700.00

TOTAL $28,650.00

AMOUNT OF GRANT $28,000.00

All items of equipment are on hand. This equipment was put into operation in March 1962.

The x-ray vacuum spectrograph is currently being used to determine thicknesses of vacuum evaporated metal films. A study is now being made to determine the minimum detectable thickness of material in the form of a thin film. Nickel is of particular interest at this time in conjunction with work being done by the solid state people here at Georgia Tech. Fig. 1. shows the equipment as it is used for this work.

The electronic circuit panel is also placed so that it may be used with our x-ray topography equipment that is being used in connection with a study of the piezo electric properties of quartz.

The General Electric Goniostat has been mounted on the Siemens. diffractometer with a bearing mounting to facilitate an omega drive of the crystal. This unit is coupled to the Philips Electronics horizontal x-ray tube and electronic counting equipment. Fig. 2 shows the Siemens diffractometer, General Electric Goniostat and Philips Electronics horizontal tube stand as they are arranged.

Respectfully submitted:

R. A. Young, Head
Solid State Branch

RAY/NKH/bw

Approved:

E. J. Scheibner, Division Chief

R. E. Stiemke, Director
Engineering Experiment Station