

March 1, 1976

Dr. Otto Haas
William Penn Foundation
1819 J. F. Kennedy Blvd.
Philadelphia, Pa. 19103

Dear Dr. Haas:

Three copies of my "mini" grant proposal are enclosed.

According to Manuel Doxer, Director of Administrative Affairs in FAS, the funds (or check) should be accompanied with a letter of transmittal. I imagine that you know the procedure, but he wanted me to mention it.

Not shown on the budget is the fact that the student will be granted free tuition.

Thank you for your consideration of this proposal.

Sincerely yours,

EKR:emd
Enclosure

Elizabeth K. Ralph

THE WILLIAM PENN FOUNDATION

920 SUBURBAN STATION BUILDING
1617 JOHN F. KENNEDY BOULEVARD
PHILADELPHIA, PENNSYLVANIA 19103
215-LO 8-2870

March 19, 1976

Mr. Manuel Doxer
Director of Administrative Affairs
The Faculty of Arts and Sciences
University of Pennsylvania
Philadelphia, Pa. 19174

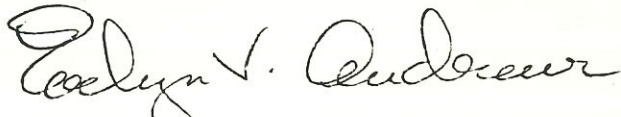
Dear Mr. Doxer:

On the recommendation of Dr. F. Otto Haas, the William Penn Foundation has approved a grant of \$6,300 to the University Museum to provide support during the current year for a graduate student.

It is our understanding that this is a five year project and consideration will be given to grants in subsequent years based on reports from the University giving us a picture of the work undertaken and the financial report on the grant.

Our check in the amount of \$6,300 is enclosed.

Sincerely yours,



(Miss) Evelyn V. Andrews

EVA:sf
Enclosure
cc: Dr. F. Otto Haas

Dr Ralph's Copy

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19174

*Faculty of
Arts and Sciences*

OFFICE OF THE DEAN
116 College Hall

March 25, 1976

Mr. Joel Kinley
Treasurer's Office
428 Franklin Bldg./I6

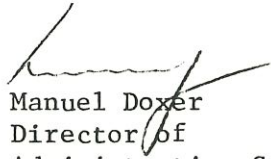
Dear Joel:

Enclosed is a check received from The William Penn Foundation for \$6,300, together with a letter of transmittal and related correspondence regarding the usage of the funds.

Would you please establish a 6-ledger budget designated for use by the Physics Radio Carbon Program for support of a graduate student (budget proposal attached). The home department will be the Physics department in FAS. The budget administrator will be Dr. Elizabeth K. Ralph and the main job of the fund will be for the support of Jeffrey Klein in the Carbon 14 lab.

Should there be any questions, please don't hesitate to contact me. Also, please send an acknowledgment to The William Penn Foundation, attention of Miss Evelyn V. Andrews, expressing the University's gratitude for receiving the funds.

Sincerely,


Manuel Doxer
Director of
Administrative Services

MD:b
xc - Dr. Walter Wales
Mr. James Schwering
Dr. Elizabeth Ralph

THE WILLIAM PENN FOUNDATION

920 SUBURBAN STATION BUILDING
1617 JOHN F. KENNEDY BOULEVARD
PHILADELPHIA, PENNSYLVANIA 19103
215-LO 8-2870

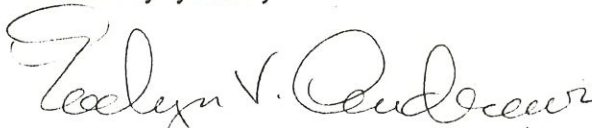
March 24, 1976

Mr. Manuel Doxer
Room 116, College Hall
University of Pennsylvania
Philadelphia, Pa. 19174

Dear Mr. Doxer:

Enclosed is the material relating to the recent grant
made by the William Penn Foundation to the University of Pennsylvania.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Evelyn V. Andrews".

(Miss) Evelyn V. Andrews

EVA:sf
Enclosures

MAR 0 1976

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19174

The Faculty of Arts and Sciences

DEPARTMENT OF PHYSICS

March 1, 1976

Dr. Otto Haas
William Penn Foundation
1819 J. F. Kennedy Blvd.
Philadelphia, Pa. 19103

Dear Dr. Haas:

Three copies of my "mini" grant proposal are enclosed.

According to Manuel Doxer, Director of Administrative Affairs in FAS, the funds (or check) should be accompanied with a letter of transmittal. I imagine that you know the procedure, but he wanted me to mention it.

Not shown on the budget is the fact that the student will be granted free tuition.

Thank you for your consideration of this proposal.

Sincerely yours,

Beth

Elizabeth K. Ralph

EKR:emd
Enclosure

UNIVERSITY OF PENNSYLVANIA
Philadelphia, Pennsylvania 19174

PROPOSAL FOR RESEARCH PROJECT

Submitted for Consideration to: William Penn Foundation
Title of Proposal: Support for a Graduate Student
Principal Investigator:
Social Security Number:
School: FAS, University of Pennsylvania
Duration: 1976 for five years
Funds Requested: \$35,154

Date: March 1, 1976

Principal Investigator Date

SUPPORT FOR A GRADUATE STUDENT

There is a need in the Radiocarbon (Department of Physics) and MASCA (University Museum) laboratories at the University of Pennsylvania, for an additional graduate student. The immediate purpose is to free Jeffrey Klein from routine duties in the ^{14}C laboratory.

Jeffrey is an exceptional physics student in that he is very intelligent and has had experience with modern electronic circuits and other practical applications of physics. For example, he has designed and constructed completely new circuits for the counting, storage, etc. of data from a carbon dioxide counter designed to count natural ^{14}C . This will comprise a 3rd installation and our capacity for dating will be increased by 50%.

Recently, he has studied the various aspects of isotopic enrichment by means of lasers. Within the past year, it has been tried successfully for the stable isotopes of carbon (^{12}C and ^{13}C), but no one has experimented with ^{14}C . Within a short period of a few weeks, Jeffrey obtained such a good grasp of the problems involved that he was able to write the significant and technical part of our new grant proposal entitled "Research Initiation and Education in Application of Physical Science to Archaeology, Anthropology, and Geology."

In order to free Jeffrey for new experiments, a replacement is needed to perform the routine duties in the ^{14}C laboratories and for help occasionally in the MASCA laboratories.

Jeffrey's curriculum vitae is as follows:

Personal:

- 1) Born 11/30/51

Education:

- 1) A.B. Chemistry and Physics, Harvard University 6/73.
- 2) Graduate student, University of Pennsylvania Department of Physics, 1/75 to present.

Academic Experience and Current Academic Positions:

- 1) Research Fellow, Radiocarbon Laboratory, University of Pennsylvania 1/75 to present.

Publications and Papers:

- 1) Geomagnetism and other effects on the ¹⁴C inventory. Paper delivered at the Conference on Archaeomagnetism, University of Newcastle upon Tyne, England, 1/9/76.

BUDGET

One Graduate Student, A-2
3 summer months - full-time
Academic year - 1/2-time
FTE 8 person months

First Year	
Salary	\$5200
Employee Benefits (21.1%)	1100
Total - 1st year	<u>\$6300</u>
Second Year	
Salary	\$5460
Employee Benefits (22.6%)	1234
Total - 2nd year	<u>\$6694</u>
Third Year	
Salary and Employee Benefits - estimated	\$7030
Fourth Year	
Salary and Employee Benefits - estimated	\$7380
Fifth Year	
Salary and Employee Benefits - estimated	\$7750
	<hr/>
TOTAL - FIVE YEARS	\$35,154

Note: After the first year, 5% increments in salary have been estimated. The rate for Employee Benefits has been kept at 22.6% as specified for 1977 to 1978, which is also an estimate for the three years following the second year.

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19174

The Faculty of Arts and Sciences

January 27, 1977

DEPARTMENT OF PHYSICS

Dr. Otto Haas
William Penn Foundation
1819 J. F. Kennedy Blvd.
Philadelphia, Pennsylvania 19103

Dear Dr. Haas:

Almost a year has passed since receipt of the grant from the William Penn Foundation for the support of a graduate student. We wish to express again our appreciation and gratitude at this time. We have included brief reports of the activities of Bernard Fishman and Jeffrey Klein as well as an interim (12/76) financial report.

The terms for the past year are outlined in the copy of "Digest of Terms..." Since the funds expire on February 28, 1977, we should appreciate it very much if the grant could be renewed on March 1, 1977.

The budget for the second year (March 1, 1977 to February 28, 1978) is also attached.

Thank you for your consideration of this request.

Sincerely yours,

Elizabeth K. Ralph

Elizabeth K. Ralph

EKR/cat

Graduate Student in Egyptology, Bernard Fishman, supported by
William Penn Foundation

Bernard Fishman has learned the routine techniques and operations of the radiocarbon laboratory, and is now capable of processing samples without supervision. He has also learned some auxiliary techniques such as elementary machine shop practices which are required from time to time for construction and revision of components in the laboratory.

He has found that his experience in the laboratory has benefited his study of archaeology and the history of Ancient Egypt. In short, he has been exposed to the application of scientific methods and procedures in the reconstruction of history, which has constituted a new aspect of scholarly investigation for him.

He applied his background in Egyptology in the preparation for publication in Radiocarbon of ^{14}C dates for samples representative of Egyptian dynasties.

Graduate Student in Physics, Jeffrey Klein, supported by Radiocarbon Budget

With the help of Bernard Fishman and other members of the radiocarbon laboratory, Jeffrey Klein has devoted more time to the development of new electronic circuitry and to other emergency electronic repairs and revisions. A specific revision was the installation of an automatic temperature cut-off device for a new furnace that had previously gone out of control.

For the third (1-liter) CO₂ counter, the electronic circuits are almost complete, the CO₂ counter has been constructed and tested as well as the anti-coincidence geiger counters surrounding it, and a third steel shield has been assembled.

A new "generation" of MASCA correction factors based upon more refined polynomial and sinusoidal fits of the data (¹⁴C dates versus dendro-dates) is being prepared. The curves and the corrections are based upon computer programs planned by Jeffrey Klein and Roger Warburton (programmer analyst).

Our request for funds to experiment with laser enrichment of natural ¹⁴C was turned down by the NSF. However, we continue to plan preliminary experiments with existing equipment which, if successful, will provide a firmer base for a new request for funds.

BEI

- Hi Energy group

WILLIAM PENN FDN
 Dr. E. Ralph (3/76 - 2/77)
 REPORT FOR DECEMBER 1976

Acct. 5-24792

A SUMMARY REPORT

1. FUNDS AVAILABLE		\$6300
2. EXPENSES INCURRED		
a) Current Month	471	
b) Paid To Date		5383
3. PROJECTED EXPENSES		<u>942</u>
4. TOTAL EXPENSES INCURRED AND PROJECTED		<u>6325</u>
5. TOTAL FUNDS DEFICIT		<u>(25.)</u>

	BUDGET	CURRENT MONTH EXPENSE	PAID TO DATE	PROJECTIONS	TOTAL
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SALARIES AND WAGES

1. Princ. Invest.	-	-	-	-	-
2. Other Salaries	<u>5202</u>	<u>389</u>	<u>4397</u>	<u>778</u>	<u>5175</u>
Total Salaries	5202	389	4397	778	5175
Empl. Ben.	<u>1098</u>	<u>82</u>	<u>986</u>	<u>164</u>	<u>1150</u>
Tot. Sal. and E.B.	<u>6300</u>	<u>471</u>	<u>5383</u>	<u>942</u>	<u>6325</u>
Total Expense	<u>6300</u>	<u>471</u>	<u>5383</u>	<u>942</u>	<u>6325</u>

UNIVERSITY of PENNSYLVANIA

rec'd 4/14/76

Office of Research Administration
Digest of Terms of Contract or Grant for Research Project

CONTRACT NO.:
ACCOUNT CODE NO.: 5-24792
SPONSOR: The William Penn Foundation
TITLE: Graduate Student Support

PRINCIPAL INVESTIGATOR: Dr. E. K. Ralph
UNIVERSITY DEPARTMENT: Physics - FAS
TYPE OF CONTRACT: Grant
AMOUNT OF CONTRACT: \$6,300

DURATION OF CONTRACT:
3/1/76 - 2/28/77

OVERHEAD: _____ % of Salaries and Wages
NONE _____ % of Total Direct Costs

SCIENTIFIC REPORTS: Annual
FINANCIAL REPORTS: Annual by 4/30/77
POOL ACCOUNT: NA

BUDGET: A University budget covering these funds should be prepared and submitted through regular channels. A-1 17.5% salaries and wages should be budgeted for Employee Benefits.
A-2 24.6%
A-3/4 23.4%

TRAVEL: To be authorized by: NONE Per Diem \$ _____ on a quarter day basis or, actual subsistence not to exceed \$ _____ per day if supporting receipts accompany claim. Automobile reimbursement _____ ¢ per mile.

APPROVALS: Sponsor's prior approval must be obtained for expenditures that fall in categories checked below:

- | | |
|---|--|
| <input type="checkbox"/> Insurance. | <input type="checkbox"/> Travel to Scientific Meetings and all foreign travel. |
| <input type="checkbox"/> Deviations which exceed \$ _____ | <input type="checkbox"/> Office equipment. |
| <input type="checkbox"/> Subcontracts. | <input type="checkbox"/> Equipment in excess of \$ _____. |
| <input type="checkbox"/> Building alteration or construction. | <input type="checkbox"/> Other. |
| <input type="checkbox"/> Overtime pay. | |
| <input type="checkbox"/> Foreign purchases. | |

PUBLICATIONS: Copyrighted material shall carry byline granting sponsor royalty-free right to reproduction and shall acknowledge sponsor's support.
_____ Reprints of published articles to sponsor. X

PATENTS: Any patentable invention to be reported to sponsor. _____

PROPERTY: Title to property purchased with sponsor's funds rests with _____
Accurate records must be kept of all non-expendable items purchased with contract or grant funds.

PAYMENT SCHEDULE: Recieved in full

OTHER: Future support will be based on satisfactory progress and fiscal reports.

DISTRIBUTION: Principal Investigator Dr. Ralph w/cy contract
Comptroller, Attention: Mr. Campbell w/cy contract
Dean: Gregorian - Attn: Mr. Doxer
Business Administrator Mr. Schwering " AM:ekk 4/12/76
File

BUDGET

One Graduate Student, A-2

3 summer months - full-time

Academic year - 1/2 time

FTE - 8 person months

Second Year

Salary

\$5,460

Employee Benefits

21.1% (3/1/77 - 6/30/77)

\$384

24.3% (7/1/77 - 2/28/78)

\$885

Total Employee Benefits

1,269

Total - Second Year

\$6,729

THE WILLIAM PENN FOUNDATION

920 SUBURBAN STATION BUILDING
1617 JOHN F. KENNEDY BOULEVARD
PHILADELPHIA, PENNSYLVANIA 19103
215-LO 8-2870

March 11, 1977

Dr. Elizabeth K. Ralph
The Faculty of Arts and Sciences
University of Pennsylvania
Philadelphia, Pa. 19174

Dear Dr. Ralph:

Thank you for sending us the report on the grant of \$6,300 made by the William Penn Foundation in March of 1976 to be used for support of a graduate student in the Department of Physics.

On the recommendation of Dr. F. Otto Haas a second grant has been approved in the amount of \$6,729 for the same purpose.

We shall require a financial and narrative report next year on the use of our gift.

Sincerely yours,

A handwritten signature in blue ink that reads "Evelyn V. Andrews". The signature is written in a cursive style with a large initial 'E'.

(Miss) Evelyn V. Andrews

EVA:sf
cc: Dr. F. Otto Haas
Enclosure

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19104

The Faculty of Arts and Sciences

DEPARTMENT OF PHYSICS

February 23, 1978

Dr. Otto Haas
William Penn Foundation
1819 J. F. Kennedy Blvd.
Philadelphia, Penna. 19103

Dear Dr. Haas:

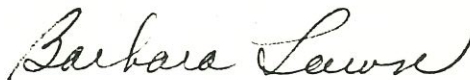
We are nearing completion of the second year of the grant from the William Penn Foundation for the support of a graduate student. We are sorry that this report is late, but Dr. Ralph was taken ill on 10 December 1977, and she normally handles these matters. We do again wish to express our appreciation and gratitude, and hope that the brief reports give you some idea of the scope of activities that your grant has fostered.

We are including an interim (1/78) financial report and the terms for the past year as outlined in the copy of "Digest of Terms...". Since funds expire at the end of this month, we should appreciate it very much if the grant would be renewed as of March 1978.

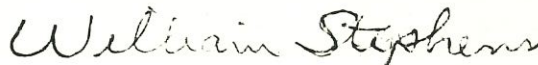
The budget for the third year (1 March 1978 - 28 February 1979) is also attached.

Thank you for your consideration.

Sincerely yours,



Barbara Lawn
Radiocarbon Laboratory



William E. Stephens
Physics Department
Professor of Physics

cc: Martin Biddle

UNIVERSITY of PENNSYLVANIA

Office of Research Administration
Digest of Terms of Contract or Grant for Research Project

CONTRACT NO.:
ACCOUNT CODE NO.: 5-24792
SPONSOR: William Penn Foundation
TITLE: Grad. Student Support

PRINCIPAL INVESTIGATOR: Dr. E.K. Ralph
UNIVERSITY DEPARTMENT: Physics/FAS
TYPE OF CONTRACT: Grant
AMOUNT OF CONTRACT: Increased by \$6,729
New Total \$13,029

DURATION OF CONTRACT:
Extended to 2/28/78

OVERHEAD: _____ % of Salaries and Wages
None _____ % of Total Direct Costs

SCIENTIFIC REPORTS: N/C
FINANCIAL REPORTS: N/C
POOL ACCOUNT: N/A

BUDGET: A University budget covering these funds should be prepared and submitted through regular channels. * _____ of salaries and wages should be budgeted for Employee Benefits.
A-1: 15.5% A-2: 21.1% A-3 & 4: 20.0%

TRAVEL: To be authorized by: None Per Diem \$ _____ on a quarter day basis or, actual subsistence not to exceed \$ _____ per day if supporting receipts accompany claim. Automobile reimbursement _____ ¢ per mile.

APPROVALS: Sponsor's prior approval must be obtained for expenditures that fall in categories checked below:

_____ Insurance.	_____ Travel to Scientific Meetings and all foreign travel.
_____ Deviations which exceed \$ _____	_____ Office equipment.
_____ Subcontracts.	_____ Equipment in excess of \$ _____.
_____ Building alteration or construction.	_____ Other.
_____ Overtime pay.	
_____ Foreign purchases.	

PUBLICATIONS: Copyrighted material shall carry byline granting sponsor royalty-free right to reproduction and shall acknowledge sponsor's support.
_____ Reprints of published articles to sponsor.

PATENTS: Any patentable invention to be reported to sponsor.

PROPERTY: Title to property purchased with sponsor's funds rests with _____
Accurate records must be kept of all non-expendable items purchased with contract or grant funds.

PAYMENT SCHEDULE: Check received for \$6,729 on 3/21/77 - Paid in full.

OTHER:

DISTRIBUTION: Principal Investigator Dr. Ralph ~~w/cy contract~~
Comptroller, Attention: K. Campbell ~~w/cy contract~~
Dean: Gregorian Attn: Mr. Doxer
Business Administrator J. Schvering
File


AWK/pj 3/24/77

Graduate Students supported by William Penn Foundation

Over the past year, Bernard Fishman has been an asset to the lab, doing much of the routine sample processing and the day-to-day radiocarbon dating. He also prepared a second radiocarbon date list which is to be published within the next few months.

During the fall, Bernard went to Egypt on an Archaeological expedition under the direction of David O'Connor of the University Museum. In keeping with the general lab policy of teaching all aspects of the MASCA-radiocarbon operation to the graduate students (in order to make them more aware of the full range of scientific archaeology), on his return, Bernard began working in MASCA doing abstracting and reclassification of the Information Center book collection.

Pat McGovern who had been working in MASCA since September has replaced Bernard in the radiocarbon laboratory. Pat has been very quick to learn the entire process from pretreatment to date calculation, and is capable of handling all of the routine work.

Graduate Student in Physics, Jeffrey Klein, supported by Radiocarbon Budget

Jeff Klein has continued working on a new calibration for radiocarbon dates. He has developed a hybrid method of least squares fitting, which allows for the estimation of both long term and short term fluctuations in the atmospheric ^{14}C inventory. During the summer, it is hoped that the new calibration will appear in the MASCA newsletter. The calibration is unique among those published for correction radiocarbon dates in that it enables one not only to calibrate a date, but also to have a good estimate of the uncertainty associated with this calibration.

He has also set up a new mass spectrometer for the routine analysis of ^{13}C fractionation in radiocarbon samples. Fractionation occurs in many plants with the effect that radiocarbon ages, if uncorrected for this fractionation, are too young by as much as two or three hundred years. Measurement of the $^{13}\text{C}/^{12}\text{C}$ ratio is a means of determining the amount of fractionation of ^{14}C --which can not be estimated directly.

Jeff has also continued experiments designed to test the feasibility of laser enrichment of ^{14}C . Though there has been much research recently in laser enrichment, the problem offered by ^{14}C is singular due to the relative scarcity of ^{14}C ($1:10^{12}$) in naturally occurring carbon sources. So far, he has obtained high resolution spectra for H_2^{12}CO in the 300nm range, and soon plans to look at H_2^{14}CO . Formaldehyde offers problems due to its spontaneous polymerization. Other carbonyl groups are being examined with an eye toward their use in enrichment of archaeological ^{14}C . Recent developments with tandem accelerators and their ability to use milligram samples make laser enrichment schemes even more attractive.

Finally, since Mark Han's departure from Thermoluminescence in MASCA at the beginning of December, Jeff has aided Steven Epstein in continuing research in TL-dating. In particular, the use of a Ge(Li) gamma-ray detector is being investigated as an alternative to alpha counting for the measurement of total radiation dose, one of the parameters necessary for TL-dating. Unlike alpha counting, gamma-ray spectrometry not only measures the total radiation, but also determines its source. Assumption relating alpha counts to beta and gamma radiation are no longer necessary, and it is possible to calculate accurately the total radiation of all three types. This has been a major source of uncertainty in the past.

William Penn Foundation
 Dr. E. Ralph (3/76 - 2/78)
 Report for January 1977

Acct. 5-24792

A SUMMARY REPORT

1. Funds Available		\$ 13,029
2. Expenses incurred		
a) Current Month	498	
b) Paid To Date		12,422
3. Projected Expenses		<u>498</u>
4. Total Expenses Incurred and Projected		<u>12,920</u>
5. Total Funds Surplus		<u>\$ 109</u>

SALARIES AND WAGES

	Budget	Current Month Expense	Paid to Date	Projections	Total
1. Princ. Invest.	<u>10,662</u>	<u>400</u>	-	-	-
2. Other Salaries	<u>10,662</u>	<u>400</u>	<u>10,126</u>	<u>400</u>	<u>10,526</u>
Total Salaries	10,662	400	10,126	400	10,526
Empl. Ben.	<u>2,367</u>	<u>97</u>	<u>2,297</u>	<u>97</u>	<u>2,394</u>
Total Sal. and E.B.	<u>13,029</u>	<u>497</u>	<u>12,423</u>	<u>497</u>	<u>12,920</u>
Total Expense	<u>13,029</u>	<u>497</u>	<u>12,423</u>	<u>497</u>	<u>12,920</u>

BUDGET

One Graduate Student, A-2

3 summer months - full-time

Academic year - 1/2 time

FTE - 8 person months

Second Year

Salary \$ 5,652

Employee Benefits

21.1% (3/1/78 - 6/30/78) \$ 438

24.3% (7/1/78 - 2/28/79) 955

Total Employee Benefits 1,394

Total - Second Year \$ 7,046

Jeff Klein has continued working on a new calibration for radiocarbon dates. He has developed a hybrid method of least squares fitting, which allows for the estimation of both long term and short term fluctuations in the atmospheric ^{14}C inventory. During the summer, it is hoped that the new calibration will appear in the MASCA newsletter. The calibration is unique among those published for correction radiocarbon dates in that it enables one not only to calibrate a date, but also to have a good estimate of the uncertainty associated with this calibration.

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William Penn Foundation
 Dr. E. Ralph (3/76 - 2/78)
 Report for January 1977

Acct. 5-24792

A SUMMARY REPORT

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SALARIES AND WAGES

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1. Princ. Invest.	-	-	-	-	-
2. Other Salaries	<u>10,662</u>	<u>400</u>	<u>10,126</u>	<u>400</u>	<u>10,526</u>
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Total Expense	<u>13,029</u>	<u>497</u>	<u>12,423</u>	<u>497</u>	<u>12,920</u>

BUDGET

One Graduate Student, A-2

3 summer months - full-time

Academic year - 1/2 time

FTE - 8 person months

Second Year

Salary

\$ 5,652

Employee Benefits

21.1% (3/1/78 - 6/30/78)

\$ 438

24.3% (7/1/78 - 2/28/79)

955

Total Employee Benefits

1,394

Total - Second Year

\$ 7,046

UNIVERSITY of PENNSYLVANIA

Office of Research Administration
Digest of Terms of Contract or Grant for Research Project

CONTRACT NO.: _____
ACCOUNT CODE NO.: 5-24792
SPONSOR: William Penn Foundation
TITLE: Grad. Student Support

PRINCIPAL INVESTIGATOR: Dr. E.K. Ralph
UNIVERSITY DEPARTMENT: Physics/FAS
TYPE OF CONTRACT: Grant
AMOUNT OF CONTRACT: \$7,046
New Total \$20,075

DURATION OF CONTRACT:
Extended to 2/28/79

OVERHEAD: _____ % of Salaries and Wages
_____ % of Total Direct Costs

SCIENTIFIC REPORTS:
FINANCIAL REPORTS:
POOL ACCOUNT:

BUDGET: A University budget covering these funds should be prepared and submitted through regular channels. _____ of salaries and wages should be budgeted for Employee Benefits.

TRAVEL: To be authorized by: _____ Per Diem \$ _____ on a quarter day basis or, actual subsistence not to exceed \$ _____ per day if supporting receipts accompany claim. Automobile reimbursement _____ ¢ per mile.

APPROVALS: Sponsor's prior approval must be obtained for expenditures that fall in categories checked below:

_____ Insurance.	_____ Travel to Scientific Meetings and all foreign travel.
_____ Deviations which exceed \$ _____	_____ Office equipment.
_____ Subcontracts.	_____ Equipment in excess of \$ _____.
_____ Building alteration or construction.	_____ Other.
_____ Overtime pay.	
_____ Foreign purchases.	

PUBLICATIONS: Copyrighted material shall carry byline granting sponsor royalty-free right to reproduction and shall acknowledge sponsor's support.
_____ Reprints of published articles to sponsor. _____

PATENTS: Any patentable invention to be reported to sponsor. _____

PROPERTY: Title to property purchased with sponsor's funds rests with _____
Accurate records must be kept of all non-expendable items purchased with contract or grant funds.

PAYMENT SCHEDULE:

OTHER:

DISTRIBUTION: Principal Investigator Dr. E.K. Ralph w/cy contract
Comptroller, Attention: K. Campbell w/cy contract
Dean: ATTN: MR. DOXER
Business Administrator J. Schwering
File

AEP/pj 4/3/78



THE WILLIAM PENN FOUNDATION

920 SUBURBAN STATION BUILDING
1617 JOHN F. KENNEDY BOULEVARD
PHILADELPHIA, PENNSYLVANIA 19103
215-LO 8-2870

March 10, 1978

Mr. Manuel Doxer, Director
of Administrative Affairs
Faculty of Arts and Sciences
University Museum of the
University of Pennsylvania
Philadelphia, Pa. 19174

Dear Mr. Doxer:

The William Penn Foundation has approved a special grant of \$7,046 for support of a graduate student in Physics/FAS. This grant was made on the recommendation of Dr. F. Otto Haas.

We appreciate receiving the reports from Dr. Barbara Lawn and Dr. William E. Stephens on the grant the Foundation made for a similar purpose in 1977. We shall expect to receive a report on the current grant a year from now.

Sincerely yours,

Evelyn V. Andrews
(Miss) Evelyn V. Andrews

EVA:sf
Enclosure
cc: Dr. F. Otto Haas

cc: K Campbell (5-24792) w/ chk # 8408

3/21/78
cc: Prof. Walter Wakes

TREASURER'S OFFICE
MAR 17 1978
UNIV. OF PENNA.

April 27, 1978

Dr. Otto Haas
William Penn Foundation
1819 J. F. Kennedy Blvd.
Philadelphia, Pa. 19103

Dear Dr. Haas:

Thank you very much for renewing the William Penn Foundation Grant for the support of one graduate student. We have put Pat McGovern in this position. He is studying Biblical Archaeology, but had an undergraduate major in Chemistry. He is an extremely good worker and with his chemical background, he is able to initiate projects and do more than routine work in the laboratory.

I am now out of the hospital and except for walking with difficulty, I am feeling fine. I am returning to work gradually, and have been in the lab about half-time per week.

With best regards,

Elizabeth K. Ralph

EKR:mbp

UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 19104

The Faculty of Arts and Sciences

DEPARTMENT OF PHYSICS

January 26, 1979

Dr. Otto Haas
William Penn Foundation
1819 J. F. Kennedy Blvd.
Philadelphia, PA 19103

Dear Dr. Haas:

We are nearing the completion of the third year of the grant from the William Penn Foundation for support of a graduate student, and again wish to express our appreciation for this continued funding.

Enclosed is a brief report for the past year, which should give you some idea of the scope of activities that this grant has fostered.

In September 1978, Jeffrey Klein was transferred to the Tandem Accelerator, where he is carrying out Ph.D. research on the direct detection of ^{14}C under the supervision of Dr. Roy Middleton (see report for full details). However, he still continues to assist in the Radiocarbon Laboratory in repairing and designing electronic circuits, refining the calibration curve, and in generally providing aid on various technical matters. It is fortunate that Jeff is now paid out of the Tandem budget, since our 1979 NSF funding has been greatly reduced. With the loss of NSF support for one graduate student, your continued support is all the more needed to fund the services of Patrick McGovern.

We are including an interim financial report (1/79), the budget for the fourth year (1 March 1979 - 28 February 1980), and the terms for the past year as outlined in the copy of "Digest of Terms..." We should appreciate it very much if the grant would be renewed as of March 1, 1979.

Thank you for your consideration.

Sincerely yours,

Elizabeth K. Ralph
Radiocarbon Laboratory

EKR/bac

cc: Martin Biddle

William E. Stephens
Physics Department
Professor of Physics

Graduate Student, Supported by the William Penn Foundation

Patrick McGovern

Over the past year, Pat McGovern has been an invaluable asset to the lab. In addition to the routine processing of sample and the calculation of their dates, he has helped in the building and installing of new equipment, and has become proficient in the use of the mass spectrometer to measure ^{12}C - ^{13}C fractionation. He has also instructed summer interns and visitors in laboratory procedures and the significance of radiocarbon dating, and has supervised the activities of the lab during vacations. Currently, he is preparing the next date list to be published in Radiocarbon.

During October-November 1978, Pat was principle investigator for a cesium magnetometer and resistivity survey in the Umm ad-Dananir region of the Baqcah Valley, Jordan, jointly funded by the National Geographic Society, the Jordanian Department of Antiquities, and MASCA (see accompanying preliminary report). Although not in the direct line of duties for the lab, the survey was highly successful and in keeping with the general lab policy of exposing graduate students to the full range of scientific techniques available through MASCA and the Radiocarbon Laboratory. All parties benefited from the survey, which now moves into the excavation phase with financial support again promised from the Jordanians and MASCA.

PRELIMINARY REPORT
CESIUM MAGNETOMETER AND RESISTIVITY SURVEY
UMM AD-DANĀNĪR, JORDAN

The archeological survey of the Umm ad-Danānīr region of the northwestern Baq'ah Valley, employing geophysical prospecting instruments, was carried out between October 19 and November 12, 1978. It achieved all of its major goals, which are briefly summarized below, pending the final report.

1. Thirty-three partially or fully robbed-out burial caves were located and precisely mapped on the eastern lower slopes of Jebel al-Hawāyah and Jebel al-Qešīr, respectively north and south of Ḥirbet Umm ad-Danānīr (see accompanying map of the Umm ad-Danānīr region). Of those caves whose robbers' dumps could be surface sherded, nineteen were Late Bronze Age in date (5 MB IIC/LB IA, 3 LB IA, 3 LB II, 7 LB, and 1 LB II/Iron IA). Three burial caves were Byzantine, and one was Mamlūk.

2. As had been predicted, the cesium magnetometer was able to detect the 10-50 gamma difference in magnetic intensity between the cave fill and the surrounding limestone/sandstone bedrock, and no less than eighteen significant anomalies were located and mapped. Since the anomalies are close to the robbed-out LB caves and in the same soft limestone/sandstone strata, they undoubtedly represent LB burial caves (some up to 10 m. in diameter), which have not been disturbed by modern digging. Based on the results of the 1977 sounding of an LB IA-IIA burial cave on Jebel al-Hawāyah, some of these caves could have as many as twenty-five burials along with rich and varied collections of associated burial goods. In support of this contention were the fragments of a Mycenaean stirrup jar and virtually intact LB vessels recovered near the robbed-out caves.

3. The discovery of two LB settlement sites fulfilled our prior expectations and fitted in with the size and richness of the LB cemetery. It also provides another challenge to Nelson Glueck's modified hypothesis that only nomads or semi-nomads inhabited Jordan, south of the Wadi Zerqa, during the Late Bronze Age.

a. Rujm al-Ḥenū (16585/22880--Palestinian grid). Located approximately one kilometer east of the line of burial caves, the site comprises two "megalithic" buildings. The eastern rectangular building (ca. 25 x 30 m.), similar in structure to the LB Amman Airport "temple," produced a very remarkable finding: MB IIC/LB IA surface sherds from its central courtyard (an exact plan of this important structure has been prepared). The western rectangular building (ca. 46 x 14 m.), with circular and rectangular towers on the western and southern sides respectively, was most likely constructed in LB II according to surface sherding. The circular tower may have been added in the Iron Age, since it appears to run over the original wall on the west side.

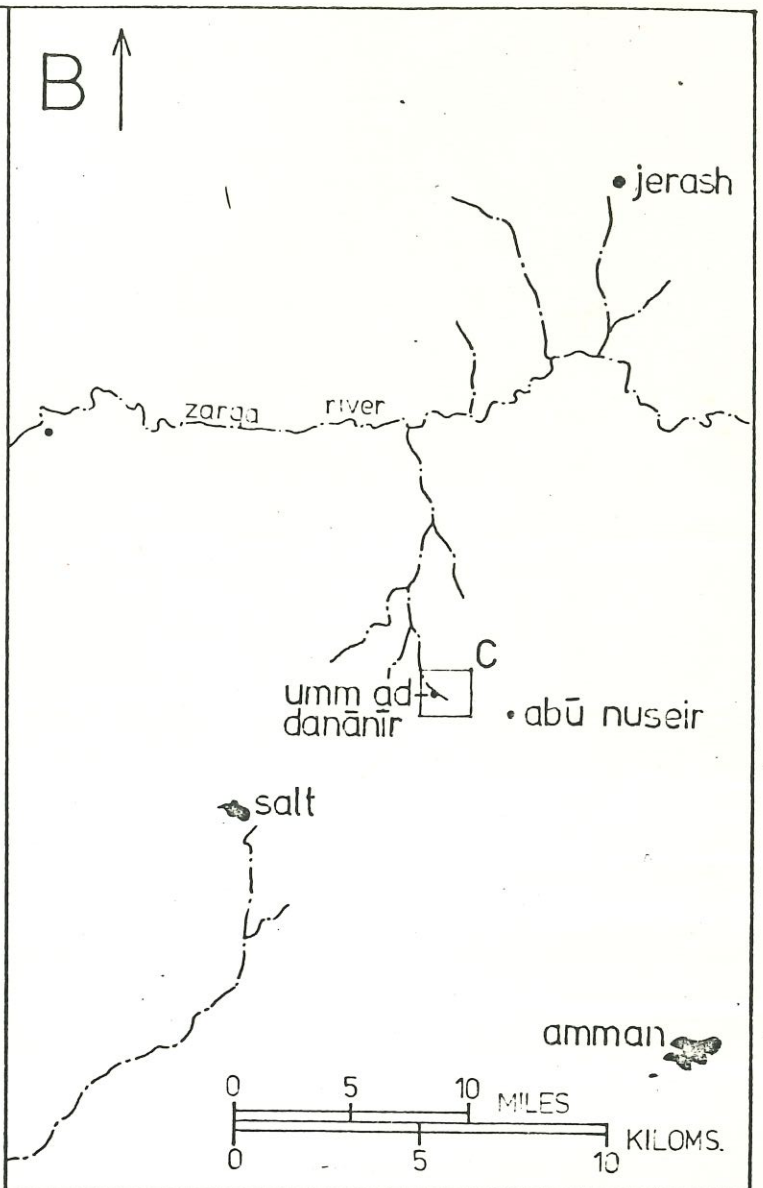
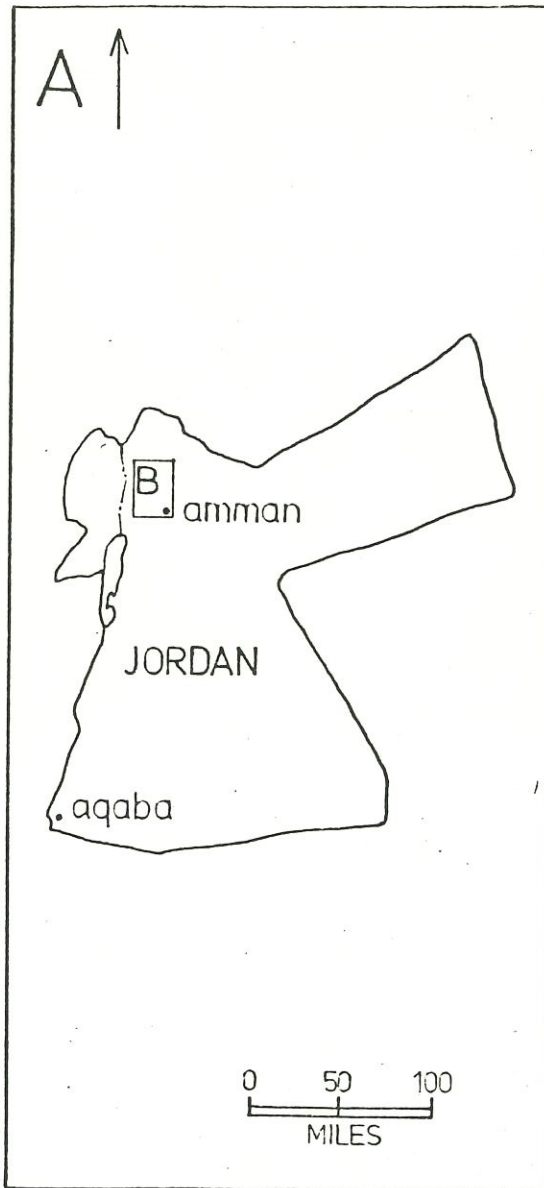
A Gossen Geohm resistivity survey in the immediate vicinity of Rujm al-Henū and inside the eastern building, covering approximately one and a half acres, localized probable zones of buried architectural remains on all sides of the eastern building and between the two buildings. Thus, a more extensive LB settlement may exist here than is immediately apparent on the surface.

b. Hirbet Umm ad-Danānīr (16600/22725). This large (ca. 1 hectare), multi-terraced site is strategically located above the Wadi Umm ad-Danānīr, where the strong spring of ^Cain Umm ad-Danānīr provides a constant source of water throughout the year. It would have guarded the northwestern pass of the Baq^Cah Valley and the trade route between the Jordan Valley (Deir ^CAlla) and Amman. The main periods of occupation according to surface sherding were LB II, Iron IA, Iron II, Early Roman III, and Early Byzantine. Besides being first occupied during LB II (possibly earlier), Hirbet Umm ad-Danānīr is important as a transitional site from LB to Iron IA when a major cultural change occurred with the arrival of the Israelites, Ammonites, etc.

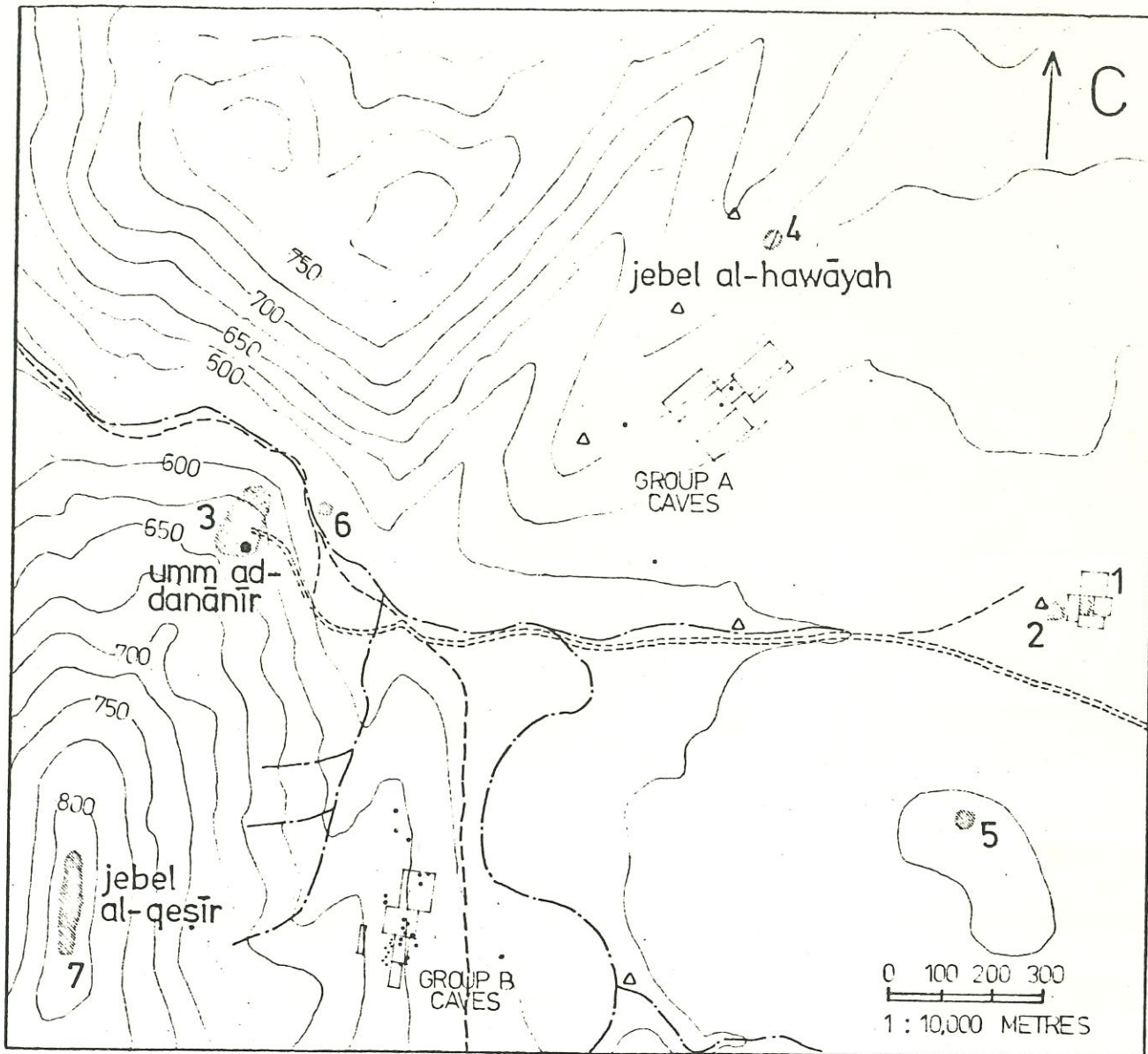
4. Sites of other periods were located and explored. The most impressive is the large Early Bronze II-IV site of al-Qeṣīr (16506-47/22693), which covers the entire top of Jebel al-Qeṣīr (about a quarter hectare) and has an encircling defensive wall. Three Iron II sites were discovered, two virtually obliterated by modern earthmoving. A large number of flints, discovered in confined areas on Jebel al-Hawāyah and Jebel al-Qeṣīr, ranged in date from the Middle Palaeolithic to the Chalcolithic period, thus greatly pushing back man's earliest presence in the valley.

5. A preliminary survey in other areas of the valley outside of the Umm ad-Danānīr region gave evidence of numerous "megalithic" Iron Age structures (some with intact walls fifteen feet high), two tells (one of which was occupied in the Late Bronze Age), a major Mamlūk site, and various Roman and Byzantine remains.

6. Another building with a ground plan similar to the Amman Airport "temple" was located only a half kilometer southeast of the latter. Surface sherding indicates an LB dating for its construction with a reuse during the Iron Age. The Jordanian Department of Antiquities provided funds to have the very well-preserved ground plan drawn by our architect.



Location Maps
 Umm ad-Danānīr Region
 Baq'ah Valley



Umm ad-Danānīr Region
Baq'ah Valley

Ref: Air survey Zarqa Basin sheets 27/64 & 19/64.
Jordan Department of Lands & Surveys, 1950.

Legend

- Sites
- Caves
- Roads
- Wadi
- Grid

Graduate Student In Physics, Supported by Radiocarbon Budget Through August

Jeff Klein

During the first few months of 1978, Jeff continued work on laser isotope enrichment of C-14. Progress was hampered by the lack of a suitable laser and the scant time available on the heavily used resources of the LRSM. However, a high resolution spectrum for C-13 in formaldehyde was obtained.

Work was also continued on the calibration of radiocarbon dates. A complete table was produced and tested 'in house' with routinely dated samples. Both the strategy and results of this analysis will be presented this month in a conference in Arizona on C-14 calibration.

In May, Jeff began working under Dr. Roy Middleton at the Tandem Accelerator, part of the Physics Department here at Penn. He is working on a method of direct detection of C-14 atoms--a technique which promises to be a million times more efficient in counting the number of C-14 atoms than beta decay. Its chief advantage lies in the ability to detect individual atoms without waiting for them to decay. Since C-14 has such a long half-life, its rate of decay is low, and in the normal counting period of forty-eight hours, only about one-one millionth of the C-14 atoms contained in the sample decay. The "tandem approach" could in principle detect every atom. The technique is a form of 'super-sensitive' mass spectrometry. The advantages include, smaller sample size (a convenient sample for the tandem would be one to ten milligrams as opposed to five to twenty grams for proportional counting), shorter measurement times (roughly thirty minutes as compared to forty-eight hours), and possibly better signal to noise ratios--enabling the dating of older samples. It is unlikely, however, that the technique will rival proportional counting in its accuracy. For many samples, the reduced precision of direct detection

is adequate--particularly for old samples beyond the range of calibration.

- For these, precision of dating is limited more by uncertainties in the C-14 concentration in the atmosphere, than by those in the measurement.

William Penn Foundation
 Dr. E. Ralph (3/76 - 2/79)
 Report for January 1979

Acct. 5-24792

A SUMMARY REPORT

1. Funds Available		\$20,075
2. Expenses incurred		
a) Current Month	520	
b) Paid to Date	19,314	
3. Projected Expenses	<u>520</u>	
4. Total Expenses Incurred and Projected		<u>19,834</u>
5. Total Funds Surplus		<u>\$ 241</u>

SALARIES AND WAGES

	Budget	Current Month Expense	Paid to Date	Projections	Total
1. Princ. Invest.	-	-	-	-	-
2. Other Salaries	<u>16,314</u>	<u>417</u>	<u>15,661</u>	<u>417</u>	<u>16,078</u>
Total Salaries	<u>16,314</u>	<u>417</u>	<u>10,126</u>	<u>417</u>	<u>16,078</u>
Empl. Ben.	<u>3,761</u>	<u>103</u>	<u>3,653</u>	<u>103</u>	<u>3,756</u>
Tot. Sal. and E. B.	<u>20,075</u>	<u>520</u>	<u>19,314</u>	<u>520</u>	<u>19,834</u>
Total Expense	<u>20,075</u>	<u>520</u>	<u>19,314</u>	<u>520</u>	<u>19,834</u>

BUDGET

One Graduate Student, A-2

3 summer months - full-time

Academic year - 1/2 time

FTE - 8 person months

Fourth Year

Salary	\$5,874	\$5,874
Employee Benefits		
24.8% (3/1/79 - 6/30/79)	464	
25.8% (7/1/79 - 2/28/80)	1,031	
Total Employee Benefits		<u>1,495</u>
Total - Fourth Year		\$7,369

UNIVERSITY of PENNSYLVANIA

Office of Research Administration
Digest of Terms of Contract or Grant for Research Project

CONTRACT NO.: _____
ACCOUNT CODE NO.: 5-24792
SPONSOR: William Penn Foundation
TITLE: Grad. Student Support

PRINCIPAL INVESTIGATOR: Dr. E.K. Ralph
UNIVERSITY DEPARTMENT: Physics/FAS
TYPE OF CONTRACT: Grant
AMOUNT OF CONTRACT: \$7,046
New Total \$20,075

DURATION OF CONTRACT:
Extended to 2/28/79

OVERHEAD: _____ % of Salaries and Wages
_____ % of Total Direct Costs

SCIENTIFIC REPORTS:
FINANCIAL REPORTS:
POOL ACCOUNT:

BUDGET: A University budget covering these funds should be prepared and submitted through regular channels. _____ of salaries and wages should be budgeted for Employee Benefits.

TRAVEL: To be authorized by: _____ Per Diem \$ _____ on a quarter day basis or, actual subsistence not to exceed \$ _____ per day if supporting receipts accompany claim. Automobile reimbursement _____ ¢ per mile.

APPROVALS: Sponsor's prior approval must be obtained for expenditures that fall in categories checked below:

_____ Insurance.
_____ Deviations which exceed \$ _____
_____ Subcontracts.
_____ Building alteration or construction.
_____ Overtime pay.
_____ Foreign purchases.

_____ Travel to Scientific Meetings and all foreign travel.
_____ Office equipment.
_____ Equipment in excess of \$ _____
_____ Other.

PUBLICATIONS: Copyrighted material shall carry byline granting sponsor royalty-free right to reproduction and shall acknowledge sponsor's support.
_____ Reprints of published articles to sponsor.

PATENTS: Any patentable invention to be reported to sponsor.

PROPERTY: Title to property purchased with sponsor's funds rests with _____
Accurate records must be kept of all non-expendable items purchased with contract or grant funds.

PAYMENT SCHEDULE:

OTHER:

DISTRIBUTION: Principal Investigator Dr. E.K. Ralph w/cy contract
Comptroller, Attention: K. Campbell w/cy contract
Dean: ATTN: MR. DOXER
Business Administrator J. Schwering
File

AEP/pj 4/3/78

and

THE WILLIAM PENN FOUNDATION

920 SUBURBAN STATION BUILDING
1617 JOHN F. KENNEDY BOULEVARD
PHILADELPHIA, PENNSYLVANIA 19103
215-LO 8-2870

February 9, 1979

Dr. Elizabeth K. Ralph
Radiocarbon Laboratory
The Faculty of Arts and Sciences
University of Pennsylvania
Philadelphia, Pa. 19104

Dear Dr. Ralph:

Thank you for sending us the report on the grant made by the William Penn Foundation in 1978 for support of a graduate student.

The Foundation has supported this project for the past three years in order to help keep MASCA afloat. However, we have now decided not to give continued support to the University for the graduate student.

Sincerely yours,



(Miss) Evelyn V. Andrews
Vice President for Operations

EVA:sf

cc: Dr. F. O. Haas

Office - 922-7416

THE WILLIAM PENN FOUNDATION

920 SUBURBAN STATION BUILDING
1617 JOHN F. KENNEDY BOULEVARD
PHILADELPHIA, PENNSYLVANIA 19103

215-LO 8-2870

July 18, 1980

Ms. Elizabeth K. Ralph
Department of Physics
The Faculty of Arts and Sciences
University of Pennsylvania
Philadelphia, PA 19104

Dear Ms. Ralph:

Recently you sent a request to Dr. Haas that the Foundation consider a grant of \$20,048 to cover needed salary funds in the collection, processing, and publication of tree-ring samples in your bristlecone pine dating project.

Unfortunately, I must tell you that we will not be able to help. Requests received by the Foundation are fairly consistently about twenty times the amount of funds available. To be as effective as possible, we work within a priority plan of areas of work. Without reflection in any way on what you are doing, it simply does not fall within our present areas of active interest.

Sincerely,



Richard K. Bennett

RKB/mh

UNIVERSITY OF PENNSYLVANIA
Office of Research Administration
PROPOSAL TRANSMITTAL AND APPROVAL FORM

PRINCIPAL INVESTIGATOR(S) Elizabeth K. Ralph DATE 8/31/78

POSITION/TITLE Research Associate TEL. NO. 8168 SOC. SEC. NO. 002-14-7858

DEPARTMENT Physics SCHOOL FAS

TYPE OF PROJECT
 RESEARCH TRAINING OTHER (Specify) _____

TITLE OF PROJECT Graduate Student Support
 NEW PROJECT SUPPLEMENTAL RENEWAL
 NON-COMPETING CONTINUATION REVISION

SPONSOR William Penn Foundation IDENT. NO. (If Any) 5-24792

FUNDS REQUESTED \$7,046 INDIRECT COST RATE _____ PROPOSED START DATE 3/1/78 DURATION 1 year

IDENTIFY SPACE AND FACILITIES TO BE USED FOR PROJECT: (Bldg., Room, Type, etc.)
BW 4, BW 6, and BW 8 DRL

SPECIAL INSTRUCTIONS: (Mailing, Deadline Date, etc.)

- OTHER APPROVAL INFORMATION (Check Each of the Following)
- | | |
|--|---|
| 1. <input type="checkbox"/> Yes <input type="checkbox"/> No Does the project involve human subjects? If YES, fill out Part I on reverse side. | 7. <input type="checkbox"/> Yes <input type="checkbox"/> No Will any portion of the research or training be conducted Off-Campus? |
| 2. <input type="checkbox"/> Yes <input type="checkbox"/> No Will additional space, facilities or renovations be required now or in the future? If YES, fill out Part II on reverse side. | 8. <input type="checkbox"/> Yes <input type="checkbox"/> No For proposals to other than HEW, is Cost Sharing required? If YES, specify the source and amount of funds |
| 3. <input type="checkbox"/> Yes <input type="checkbox"/> No Is additional equipment required for project? If YES, identify source of funds
If major equipment installation is required, fill out Part II on reverse side. | 9. <input type="checkbox"/> Yes <input type="checkbox"/> No Are Subcontracts included in this project proposal? If YES, identify proposed subcontractors and amount of support proposed. |
| 4. <input type="checkbox"/> Yes <input type="checkbox"/> No Does the project involve participation by personnel from other Departments or Responsibility Centers? If YES, fill out Part III on reverse side. | |
| 5. <input type="checkbox"/> Yes <input type="checkbox"/> No Does the project involve the use of animals? If YES, project must be reviewed in accordance with Animal Care Policy dated 1/31/75. (Contact DLAM on extension 6468 for further information.) | |
| 6. <input type="checkbox"/> Yes <input type="checkbox"/> No Does the project involve the use of radioactive materials or radiation-producing machines? If YES, consult the Radiation Safety Office on extension 7187. | |
| | 10. <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO DOES PROJECT INVOLVE IN VITRO FORMATION OF RECOMBINANT DNA CAPABLE OF REPLICATING IN A HOST CELL? IF "YES", PROJECT MUST BE REVIEWED BY THE BIOHAZARDS COMMITTEE. |

APPROVAL CERTIFICATIONS

1. PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR: I certify that the above information is accurate and complete as of this date. I agree to accept responsibility for scientific and technical conduct of the project and for provision of required technical reports if a grant or contract is awarded as a result of this application.

2. DEPARTMENT CHAIRMAN: The attached application (proposal) is approved. It is within the total program and academic objectives of the Department. Adequate space is available or planned for the conduct of the project. The professional time allocations described therein are realistic. The use of human subjects is approved as applicable.

3. DEAN OF SCHOOL: The proposed project is approved. It is consistent with the total program objectives of this school and the commitments to this project are acceptable.

(Signature Principal Investigator/Project Director) _____ (Date) _____

(Signature of the Department Chairman) _____ (Date) _____

(Signature of Dean) _____ (Date) _____

COMMENTS:

NOTE: This form is not sent to sponsors with proposal. The title or cover page of the proposal itself should allow for signatures of the Principal Investigator(s) and the authorizing official of the University.

WILLIAM PENN FOUNDATION
DR. RALPH Acct. # 5-24792
REPORT FOR THE MONTH OF JANUARY, 1979

	1	2	3	4	5	6
	BUDGET	CURRENT MONTH	PAID TO DATE	PROJECTED EXPENSE	TOTAL EXPENSE	
0-0		1/79				
I. Salary & Wages						
1. prin. inv.	-	-	-			
2. all others	15722	417	15258	417*	15675	
TOTAL SALARY & WAGES	15722	417	15258	417	15675	
II. Employee Benefits	3565	103	3561	103	3664	
TOTAL SALARY & E.B.	19287	520	18819	520	19339	
III. Non-Payroll Direct Expenses						
1. Supplies	105	-	1	-	1	
2. Mach Shop	312	-		-	-	
3. Misc. Expense	371	-	(181)	-	(181)	
TOTAL NON-PAYROLL	788	-	(180)	-	(180)	
TOTAL DIRECT COSTS	20075	520	18639	520	19159	
<p>* Patrick McGovern 1 month's salary 416.67 TEB 103.33 <u>520.00</u></p>						
REPORT SUMMARY						
Total award	20075					
Total expenses	19195					
<u>BALANCE AVAILABLE</u>	<u>880</u>					

WM PENN

DR. RALPH Acct.# 5-24792
REPORT FOR THE MONTH OF FEBRUARY, 1979 [3178-2179]

	1	2	3	4	5	6
	BUDGET	CURRENT MONTH	PAID TO DATE	PROJECTED EXPENSE	TOTAL EXPENSE	
-0-		2/79				
I. Salary & Wages						
1. prin. inv.						
2. all others	15722	417	15675		15675	
TOTAL SALARY & WAGES	15722	417	15675	-	15675	
II. Employee Benefits	3565	103	3665		3665	
TOTAL SALARY & E.B.	19287	520	19340	-	19340	
III. Non-Payroll Direct Expenses						
Supplies	105				1	
MISL. EXP.	683		181		181	
TOTAL NON PAYROLL	788	-	180	-	180	
TOTAL DIRECT COSTS	20075	520	19160	-	19160	
TOTAL EXPENSE	20075	520	19160	-	19160	

REPORT SUMMARY	
Total award	20075
Total expenses	19160
<u>BALANCE AVAILABLE</u>	<u>915</u>

WILLIAM PENN FOUNDATION
 DR RALPH ACCT. # 5-24792
 REPORT FOR THE MONTH OF MARCH, 1979 [3/78-2/79]

		1 BUDGET	2 CURRENT MONTH	3 PAID TO DATE	4 PROJECTED EXPENSE	5 EXPENSE	6
			379				
1	I. Salary & Wages						
2	1. prin. inv.						
3	2. all others	15722		15675			
4	TOTAL SALARY & WAGES	15722	—	15675			
5	II. Employee Benefits	3565		3665			
6	TOTAL SALARY & E.B.	19287	—	19340			
7	III. Non-payroll Direct Expenses						
8	1. Travel - DOM.	/	/	/	/		
9	2. Travel - FOR.	/	/	/	/		
10	3. Supplies	105		11			
11	4. Misc. Exp.	683		(181)			
12	5. Joint Svc.						
13	TOTAL NON PAYROLL	788	—	(130)			
14	TOTAL DIRECT COST	20075	—	19160			
15	TOTAL EXPENSE	20075	—	19160		19160	
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33	PERCENTAGE OF AWARD	100%		95.44%		95.44%	
34							
35							
36	REPORT SUMMARY						
37	Total award	20075					
38	Total expenses	19160					
39	BALANCE AVAILABLE	915					
40							

WM PENN

DR RALPH
REPORT FOR THE MONTH OF

ACCT. # 5-24792
MAY, 1979

	1	2	3	4	5	6
	BUDGET	CURRENT MONTH	PAID TO DATE	PROJECTED EXPENSE	EXPENSE	
I. Salary & Wages		579				
1. prin. inv.			0		0	
2. all others	15722		15675	920	16595	
TOTAL SALARY & WAGES	15722		15675	920	16595	
II. Employee Benefits	3565		3065	227	3892	
TOTAL SALARY & E.B.	19287		19340	1147	20487	
III. Non-payroll Direct Expenses						
1. Travel - DOM.						
2. Travel - FOR.						
3. Supplies	105					
4. Misc. Exp.	683*		<171>		<187>	
5. Joint Svc.						
6. P + D			1		1	
7. Publ. + Reprint						
8. Machine Shop						
9. Stock w/d						
10. Telephone						
TOTAL NON-PAYROLL	788		<171>	0	<187>	
TOTAL DIRECT COSTS	20075		19160	1147	19160	
TOTAL EXPENSE	20075		19160	1147	19160	
PERCENTAGE OF AWARD	100%		95.442%	57.14%	95.442%	
REPORT SUMMARY						
Total award	20075					
Total expenses	19160					
BALANCE AVAILABLE	915					