



Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

The Hunt Institute is committed to making its collections accessible for research. We are pleased to offer this digitized item.

Usage guidelines

We have provided this low-resolution, digitized version for research purposes. To inquire about publishing any images from this item, please contact the Institute.

Statement on harmful and offensive content

The Hunt Institute Archives contains hundreds of thousands of pages of historical content, writing and images, created by thousands of individuals connected to the botanical sciences. Due to the wide range of time and social context in which these materials were created, some of the collections contain material that reflect outdated, biased, offensive and possibly violent views, opinions and actions. The Hunt Institute for Botanical Documentation does not endorse the views expressed in these materials, which are inconsistent with our dedication to creating an inclusive, accessible and anti-discriminatory research environment. Archival records are historical documents, and the Hunt Institute keeps such records unaltered to maintain their integrity and to foster accountability for the actions and views of the collections' creators.

Many of the historical collections in the Hunt Institute Archives contain personal correspondence, notes, recollections and opinions, which may contain language, ideas or stereotypes that are offensive or harmful to others. These collections are maintained as records of the individuals involved and do not reflect the views or values of the Hunt Institute for Botanical Documentation or those of Carnegie Mellon University.

About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.



STATE OF NORTH DAKOTA

North Dakota Research Foundation

BISMARCK, NORTH DAKOTA

May 18, 1954

OFFICE OF THE
DIRECTOR OF RESEARCH

Dr. Alfred Traverse
Lignite Laboratory
Grand Forks
North Dakota

Dear Al:

I want to thank you for your contribution in making the recent lignite conference a success. We had a good crowd and they were very interested in what you had to say. I think your slides were well selected and I heard many comments about the beauty and significance of your illustrations.

This was the best presentation that I have heard you give. My own estimation is substantiated by the attention that was given you by the audience.

We missed you at the dinner. There was a large crowd and the Governor did very well.

Sincerely yours,

NORTH DAKOTA RESEARCH FOUNDATION

ACB
Alex. C. Burr
Director of Research

ACB:vel



UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF MINES
Region V
Box LL, University Station
Grand Forks, North Dakota

July 25, 1952

Dr. Alfred Traverse
Hotel Berry
Velva, North Dakota

Dear Al,

I was glad to have your letter and know that you had an interesting trip out. I will be glad to have reports from time to time of the progress being made in getting your core samples.

As you may know, I am leaving Sunday morning for Washington and will be gone all of next week. The signed drilling agreement covering Baukol-Noonan and Dakota Briquettes and Tar Products have not yet been returned. I left instructions that as soon as they come in three copies are to be sent to you. I do not expect any difficulty concerning the drilling whether we get the agreement or not.

All is going well here and I know that you will enjoy the variety of scenery to be found in western North Dakota.

Sincerely yours,


ALEX. C. BURR

13 May, 1952

Memorandum: A. Traverse to A. C. Burr

1. I just received notice that I have been elected a member of the North Dakota Academy of Science. I suspect that you are responsible. Thank you very much. I shall try to attend the functions of the Academy in the future.
2. John Fleur got your note about visiting the drilling operations of Baukol-Noonan. I tried to contact Mr. S. by phone Monday but was not able to do so. John finally reached him (or vice versa?) Monday evening. The concensus was that it would be unprofitable to make the trip until next week.

In any event, I appreciate the opportunity to watch the drilling and get in a little more field experience.

UNIVERSITY OF MICHIGAN

TRAVISA JUNE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

May 6, 1952

Memorandum

A. Traverse to A. C. Burr

Re: core drill and so forth

Arrangements with Mr. Needham are proceeding nicely, as indicated by the enclosed memo.

I am calling your attention to the items marked with vertical pencil lines. Mr. Needham wants us to buy those items, which seems fair enough. Would you o.k. this so that I can write him again?

ok Oct 13

Latest dope on core boxes is that we can have metal ones made locally quite inexpensively. I shall tell Mr. Needham this in my letter.

AS

Memorandum

Alfred Traverse to A. C. Burr

Re: keys to the darkroom and chemical stockroom

I have so far failed in efforts to obtain a key to the darkroom and stockroom.

It seems obvious that my inability to enter these rooms after five o'clock will seriously hamper my work, yet the rooms should be kept locked after the building closes.

It also appears obvious that if I am not issued a key to each of these rooms I shall have to adopt two undesirable practices: 1. Take measures to see that the darkroom is frequently left unlocked.

2. Hoard items from the stockroom against the chance that I may be locked out.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Region V
Box LL, University Station
Grand Forks, North Dakota

December 4, 1951

Memorandum

To: Alex. C. Burr, Chief, Fuels Technology Div., Reg. V
From: Alfred Traverse, Coal Technologist
Subject: Wetability measurement of lignite

I have given some thought to your question about making wetability measurements of lignite.

Here is a suggestion which would be worth more investigation, if you are still interested:

There are available short glass cylinders, about 1/2" in diameter and 1/2" high, ordinarily used for growing microorganisms on slides for constant observation. A cylinder is mounted on a microscope slide and covered with an ordinary coverslip, vaseline being used for a seal. A closed compartment with controlled atmosphere results.

I think a polished block of lignite could be introduced to such a chamber, drops of liquid added while the coverslip was briefly removed, and then measurements made.

ALFRED TRAVERSE

cc Traverse ✓
File

October 11, 1951

Mr. Alex C. Burr, Chief
Fuels-Technology Division
Bureau of Mines
Box LL, University Station
Grand Forks, North Dakota

Dear Mr. Burr:

Dr. Traverse' personally written report covering the second month of training in the Coal Petrography Laboratory at this station, is herewith enclosed.

I would like to add from my own observations that Dr. Traverse is making exceptionally good progress in his work here. I can assure you he will successfully cover the entire program of training as originally outlined.

Very truly yours,

Bryan C. Parks

Enclosure

BCParks/jp

cc Coal Branch, W. O.
HHStorch
BCParks
✓ ATraverse
Files, Grand Forks, N. D.
(1) HPG (2) Files, Pgh.

Report of Progress of Training at Central Experiment Station,
Pittsburgh, Pa., August 25 to September 29, 1951.

Alfred Traverse

During the month since my last report I have spent nearly all of my time 1. perfecting my technique in preparing thin sections of lignite, and 2. in making sections of the column of North Dakota lignite on which I am working. I have been keeping complete notes on microscopic features of the coal and special difficulties met in working with certain parts of the column. It is expected that these notes will complement the microscopic study of the thin sections. I have experimented some with mounting media because the solvents of the standard media dissolve the adhesive used to fix the lignite to the microscopic slides. This apparently is more of a problem with lignite than with bituminous coal, for which the Bureau's standard techniques are designed.

Thin sections for ten feet of coal have now been made from the twelve foot column - 180 sections in all. My program for October is to complete the preparation of thin sections and make a microscopic examination of them, using the Bureau's standard method. A petrographic report for the coal bed will then be made. It is hoped that some time can be spent in examining the large collection they have here of sections of various ranks and types of coal.

During this period I have used by duty hours about as follows:

- | | |
|---|-----|
| 1. Preparation of thin sections and improvement of technique..... | 85% |
| 2. Reading and routine business..... | 15% |

September 18, 1951

Mr. Alex C. Burr
Bureau of Mines
Box LL, University Station
Grand Forks, North Dakota

Dear Mr. Burr:

I was glad to hear that my report was received in Grand Forks and was satisfactory. My plan is to bring to Grand Forks with me the series of slides which I am preparing. I shall also want to bring one drum containing unused parts of the column. This is a complete 12 feet of lignite, corresponding to the 12 feet from which thin sections are being prepared. This unused lignite will be used for comparison with the slides.

I was very pleased by your thoughtfulness in inviting me to the opening of the laboratory.

Yours sincerely,

Alfred Traverse

ATraverse/jp

cc Coal Branch, W. O.
HHStorch
BCParks
ATraverse
(1) HPGreenwald (2) Files, Pgh.
Region V, Minneapolis
Files, Grand Forks



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Box LL, University Station
Grand Forks, North Dakota

September 11, 1951

Mr. Alfred Traverse
U. S. Bureau of Mines
4800 Forbes Street
Pittsburgh 13, Pennsylvania

Dear Mr. Traverse:

The U. S. Bureau of Mines is dedicating the Charles R. Robertson Lignite Research Laboratory Saturday morning, the 29th of September. You are cordially invited to attend.

Printed information concerning the dedicating is given on the enclosed cards.

Sincerely yours,

ALEX. C. BURR, Chief,
Fuels-Technology Division,
Region V



UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

Box 11, University Station
Grand Forks, North Dakota

September 6, 1951

Dr. Alfred Traverse
U. S. Bureau of Mines
4800 Forbes Street
Pittsburgh 13, Pennsylvania

Dear Dr. Traverse:

During my absence from the station your report of progress of training at Central Experiment Station had been received, together with a summary from Mr. Parks. I am very glad that your work is progressing as well as it seems to be. Your report gives us a very good idea of what you are doing. I hope that when you come here to Grand Forks you will bring with you either a complete series of slides or a complete series of Kodachromes of the slides to add to our records.

We feel that with this combination of your methods and point of view from the Harvard Laboratories and the Bureau methods and point of view, from your experiences in Pittsburgh, and with the information gathered on visits to Morgantown, Columbus and Urbana, that you will be in excellent position to initiate our work here and make a distinct contribution to our understanding of lignite and its behavior.

I am very sorry that it has been impossible to arrange for your trip to Minneapolis.

We shall look forward with anticipation to your eventual arrival here.

Sincerely yours,

ALEX. C. BURR, Chief,
Fuels Technology Division
Region V

August 29, 1951

Mr. Alex G. Barr, Chief
Fuels-Technology Division
Bureau of Mines
Box LL, University Station
Grand Forks, North Dakota

Dear Mr. Barr:

Dr. Alfred Traverse who was recently appointed to the staff of the Lignite Research Laboratory reported in the Coal Petrography Laboratory at this station July 25 for training in Bureau of Mines methods of coal petrography preliminary to assuming charge of similar laboratory work at Grand Forks.

Traverse spent the first week with us principally (1) in making a thorough survey of coal literature, particularly Bureau of Mines publications relating to coal petrography (2) in discussions with the staff of this laboratory the problems of laboratory technique and practical application of coal petrography (3) outlining a program of progressive training in thin section preparation and microscopic analysis of coal covering a period of about 3 months duration, and (4) in visiting various sections and facilities of this station and getting acquainted with the staff and the different phases of coal work done by the Bureau of Mines.

The work that Traverse is now doing is centered upon a column sample of lignite 12 feet in thickness collected from the Dakota Collieries strip mine at Zap, Mercer County, North Dakota, by Mr. Ellman of the Grand Forks Station. The sample was received a few days after Traverse's arrival and contained an abundance of lignite in excellent condition for petrographic work.

In the first month of his training, Traverse has made very satisfactory progress in mastering the technique of thin section preparation and is well along with the job of completely thin sectioning the Zap column sample. When this is done he will make a microscopic analysis and prepare a report on the coal. This work is done under the guidance and supervision of O'Donnell and myself, but all details of the work are left in Traverse's hands. Needless to say, before starting he thoroughly familiarized himself with all steps in

cc JMFleur, Grand Forks, N. D.
PZinner, Region V, Minneapolis, Minn.
JCHalta, W. O.
Coal Branch, W. O.
HHStorch
BCParke
(X) HPO (2) Files

ATraverse

the laboratory procedure, and he will gain valuable practice and experience in making a complete petrographic analysis of a lignite sample by the procedure developed and standardized in this laboratory.

I do not hesitate in saying now that Dr. Traverso will do a most commendable job with the Zap column, and that at the end of the training period he will be ready and anxious to take on the responsibilities of his laboratory at Grand Forks. His academic training and all-round ability plus his enthusiasm, application, and cooperation in learning laboratory techniques and Bureau of Mines "modus operandi" in general, insures that he will be entirely competent and a valuable addition to your staff.

There is attached Dr. Traverso's personal account of his progress in training, covering the period July 25 to August 25.

Very truly yours,

Bryan C. Parks

Attachment

BCParks/jp

Report of Progress of Training at Central Experiment Station,
Pittsburgh, Pa., July 25 to August 24, 1951.

Alfred Traverso

Because of my largely paleobotanical background, my appointment to do petrographic research with the lignites of North Dakota, at the Bureau of Mines new lignite laboratory in Grand Forks, made it desirable that I be trained in the Bureau's coal petrographic techniques. Knowing the theory and practice of these methods will enable me to use more effectively my knowledge of the plant substances which make up coal. The Bureau's coal petrographic research has always been done at the Central Experiment Station, Pittsburgh; hence, I was assigned here for a three-month training period.

My first day on the job, Wednesday, July 25, after I reported to Mr. W. A. Selvig and Mr. B. C. Parks for duty, was spent in completion of my papers and my induction as an employee of the Bureau of Mines and in touring the general facilities of the Station with Mr. Parks, meeting the people with whom I was to work (especially Mr. H. J. O'Donnell and Mr. H. L. Smith) and being shown the equipment I was to use during my training in Pittsburgh.

Next day I began work learning the theory and techniques of coal petrography, especially the methods of the Bureau of Mines. Many hours have been spent in reading textbooks and papers to acquire knowledge of the historical development of coal petrography and to help my understanding of the physical and chemical structure of coal. Brief reading notes have been employed, and I am making an index of journals, papers and books I think will be useful to my work in North Dakota.

I have spent a few hours in practicing the Bureau's method of microscopic analysis, under the guidance of Messrs. Parks, O'Donnell, and Smith. Much of the classification of coals as to type, i.e. splint, bright and so forth, is based on examination of thin sections for percentages of the substances that Thiessen and his successors have set up as the primary constituents, and I shall be very interested to investigate the North Dakota lignite to determine whether these constituents are as valid for lignites as for the higher rank coals for which they were postulated.

Mr. Parks felt that the best way for me to learn the Bureau's techniques would be to make a study of a complete seam of North Dakota lignite. This study would be made using the Bureau's methods, with careful supervision and instruction. Dr. J. C. Helts, then of the lignite laboratory, arranged that a column sample of

- 1. Study of laboratory methods, e.g., preparation of the Zap column for thin-sectioning..... 65%
- 2. Reading papers, books and current journals about coal. 25%
- 3. Handling business and correspondence..... 10%

as follows:

During the first month I have employed my day hours about

much time was spent in practicing the method before I felt that I was ready to begin sectioning the column. This was commenced a few days ago, and thin sections are now prepared for only six inches of the column. My objective is to finish the task of making a complete series of thin sections for the column, to make a petrographic analysis of the thin sections and to draw up a report on the light microscope, using the standard Bureau of Mines procedure.

I was shown the method of making thin sections, using wraps of Ligrite. Complete notes were taken on all phases of the operation, including the preparation of adhesive with which to fasten the small pieces of coal from which the sections are made to microscope slides. Considerable skill is required in attaching the blocks to the slides and in the special methods of grinding the coal thin on carbide wheels and hones, and polishing the sections with certain grades. The process is difficult but is the only method known which yields thin sections of coal containing all of its constituents unaltered.

The column sample arrived in three steel drums, each piece of Ligrite carefully wrapped and labeled and all packed with notes thus to prevent the disintegration of the Ligrite, which occurs rapidly with loss of moisture. Accompanying notes from the collector described the manner in which the column was collected and listed the measurements of each block of Ligrite. The measurements of the blocks of the column were checked, and each block was logged and prepared for thin-sectioning under the direction of Messrs. Parks and O'Donnell. A representative sample about one inch square and running the whole length of the column was cut from the column for chemical analysis. Except for the representative sample having less moisture, the analysis compared closely with that of the sample taken from the mine for chemical analysis. This sample was not a standard face sample but was taken with an auger, and these results probably contain the collectors' idea that the auger sample was fully representative.

Ligrite for petrographic analysis and a sample for chemical analysis be collected at the Dakota Collieries strip mine, Zap, Horser County, North Dakota. The sample for chemical analysis was sent to Pittsburgh as was the column sample. The standard methods by which these samples are collected in the field were explained to me. On this and all other techniques, extensive notes were made for use in the Grand Forks Laboratory.

Report of Progress of Training at Central Experiment Station,
Pittsburgh, Pa., August 25 to September 29, 1951.

Alfred Traverse

During the month since my last report I have spent nearly all of my time 1. perfecting my technique in preparing thin sections of lignite, and 2. in making sections of the column of North Dakota lignite on which I am working. I have been keeping complete notes on microscopic features of the coal and special difficulties met in working with certain parts of the column. It is expected that these notes will complement the microscopic study of the thin sections. I have experimented some with mounting media because the solvents of the standard media dissolve the adhesive used to fix the lignite to the microscopic slides. This apparently is more of a problem with lignite than with bituminous coal, for which the Bureau's standard techniques are designed.

Thin sections for ten feet of coal have now been made from the twelve foot column - 100 sections in all. My program for October is to complete the preparation of thin sections and make a microscopic examination of them, using the Bureau's standard method. A petrographic report for the coal bed will then be made. It is hoped that some time can be spent in examining the large collection they have here of sections of various ranks and types of coal.

During this period I have used by duty hours about as follows:

- | | |
|---|-----|
| 1. Preparation of thin sections and improvement of technique..... | 85% |
| 2. Reading and routine business..... | 15% |



UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF MINES
Box LL University Station
Grand Forks, North Dakota

July 6, 1951

Mr. Alfred Traverse
Biological Laboratories
Harvard University
Cambridge, Massachusetts

Dear Mr. Traverse:

Let me congratulate you on the two recent honors that have come to you during the past month - the awarding of your doctorate and the winning of your bride. Seems to me that within a period of thirty days to receive your degree and get married and to start a most interesting job is about all one man is entitled to.

We are looking forward to your eventual arriving at Grand Forks and beginning work in the new laboratory. Attached is a description of the laboratory which will help in orienting you. I have just been discussing with Dr. Holtz the matter of your work at Pittsburgh. As I understand it, you are to begin work there on the 25th of July under the general supervision of Mr. W. A. Selvig, and under the more immediate supervision of Mr. B. C. Parks. Both of these gentlemen are recognized experts in the field, and I believe that you will have an excellent introduction to Bureau methods.

You will remember that during our visit in January I said I thought it was to our advantage that your training was in a different kind of method, because when you become acquainted with the details of the Bureau of Mines method, then we will have two methods at our service. Dr. Holtz will also arrange for you to visit the petrographical laboratories at Logantown, West Virginia, Columbus, Ohio and Urbana, Illinois. We realize that it will be some three months before you get here, but we feel that the time will be well spent. It is understood that your travel expenses from Pittsburgh here will be paid by the Bureau, and that you will be allowed the standard per diem while "in transit". Mr. Fleur will inform you on these details.

Let me assure you that a warm welcome awaits you when you arrive at Grand Forks.

Sincerely yours,

Alex. C. Burr

ALEX. C. BURR
Chief, Fuels Technology Division
Region V

558 North Audubon Rd.
Indianapolis, Indiana

19 July, 1951

Dr. Alex C. Burr
Chief, Fuels Technology Division, Region V
Bureau of Mines
Box LL University Station
Grand Forks, North Dakota

Dear Dr. Burr:

On returning from our wedding trip yesterday, I was delighted to get your congratulatory letter of 6 July. I am indeed a very lucky fellow this year, and to hear that my job with the Bureau is apparently all but official makes me feel even luckier than before. I am very sorry that you did not have long enough in Cambridge in January to meet my wife. I am sure that she will be well liked in Grand Forks, as she has been in Boston, and I shall be very proud to have her at my side.

My wife and I are now spending a few days with her parents. We are very busy getting our clothes and so forth assembled for the trip to Pittsburgh. I have an apartment there as of the first of July. I had understood that we were to be there for three months and have engaged the place accordingly. I am not clear whether the trips to West Virginia, etc., are to be side-trips from Pittsburgh or to follow the stay in Pittsburgh, but shall go wherever and whenever I am told, of course.

The only question I should like to raise now is re the fact that I am signed up to deliver a paper at the paleobotanical meetings in Minneapolis, 11-12 September. As a matter of fact, I think it would be very beneficial for me to attend the meetings even if I weren't participating, in order to hear about new developments which may have come up. My paper is listed in the preliminary program for the morning of 12 September. I very much hope that I shall be given permission to attend. I believe I have mentioned this in a letter to Mr. Fleur already.

Thank you very much for your very nice letter. My wife and I are looking forward eagerly to this new adventure!

Sincerely yours,

Alfred Traverse

Biological Laboratories
Harvard University
Cambridge, Massachusetts
14 January, ~~1950~~

1951

Dr. Alex C. Burr
Box LL, University Station
Grand Forks, North Dakota

Dear Dr. Burr:

I have sent by registered mail two copies of completed "Forms 57." I also have sent along two copies of my proposed plan of research and a rough list of the equipment needed. I hope this is the sort of statement you wanted. I have more detailed information about equipment necessary and could design a laboratory plan, giving precise specifications of all equipment needed, were I provided with information on the floor space, and so forth.

My regrettable slip of two weeks ago and the fruitless trip to New York were disheartening, but I enjoyed our visit very much. I think the opportunity, as you outlined it, is a fascinating one. I appreciate being considered for the job.

Yours sincerely,

Alfred Traverse

Alfred Traverse

SENDER IS AWAITING A SPEEDY

answer

PLEASE GIVE IT TO THE MESSENGER
OR TELEPHONE

WESTERN UNION

7477-D 10-481

WESTERN UNION

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS

DL = Day Letter

NL = Night Letter

LC = Deferred Cable

NLT = Cable Night Letter

Ship Radiogram

BA081

B. CC018 GOVT NL PD=CHICAGO ILL 1=

1951 JAN 1 - AM 10 04

PROFESSOR ELSON S BARGHOORN=

HARVARD UNIVERSITY CAMBRIDGE MASS=

CAN ALFRED TRAVERSE MEET ME AT PENNSYLVANIA HOTEL NEW YORK
ON FRIDAY AFTERNOON JAN 5 FOR INTERVIEW FOR PHOTOGRAPHER
AT GRAND FORKS WIRE REPLY TO ROBERT MORRIS HOTEL
PHILADELPHIA=

photographer?

ALEX C BURR BUREAU OF MINES GRAND FORKS=