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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.

5 December, 1977

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
3750 Harrison Blvd.
Ogden, UT 84408

Dear Sid:

Thanks for yours of 7 November. I had in the back of my mind that I had already written you acknowledging receipt of the small package of samples. However, we have been on term break and other matters have intervened, and I don't seem to be able to turn up the carbon copy of such a letter, so I had better get one in the works to let you know that I got the samples and the letter. Miss Delfel is working on another project for me at the moment and I'm not going to muddy the water by giving her these samples just yet.

The idea of a detailed study of the in situ spores of the Chinle ferns sounds like a great idea. I know that Bruce took a crack at a few things and got some very interesting matter. As soon as Miss Delfel finishes the current (Cretaceous) project on which she is working I will get her started on the matters that you have brought up. In the meantime, I'm keeping the letter and package on my desk as constant reminders that unfinished business is in need of attention!

I'm glad to hear that you still think in terms of a possible joint project. I'm glad you have some source of possible funding to get us together to plot this out in more detail. I do not have any such local funding available, and because of personal problems have almost reached the end of all of my NSF funding (I have had a grant continuously for the last 12 years, but that is coming to an end). So if you can get here to Penn State, you could stay with us and we would work on plans and plots as much as possible within the time frame that you have available. On the other hand, I have a place to stay in St. Louis, and I would be quite happy to meet you there.

Ash, pg. 2

One interesting place for such a conference would be the Missouri Botanical Garden. That is an absolutely fascinating spot. Keep in touch. Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

cc: D. Delfel



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84408

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY-2507

November 7, 1977

Dr. Alfred Traverse
Department of Earth Sciences
College of Earth and Mineral Sciences
University Park, PA 16802

Dear Al:

Thank you for your letter of October 14. Yes, we had quite an adventure during the past year but we are happy to be back in the states. The principal secret behind our trips is that we don't have a big house, car or family and that our children are in grade school.

I sent you eight Chinle samples for pollen analysis the other day. Hopefully they'll eventually get to you. The samples are as follows:

R. L. Tuttle has
as of 19. III. 80

- | <u>Sample Number</u> |
|----------------------|
| ✓ 9 |
| ✓ 13 |
| ✓ 14 |
| ✓ 23 |
| ✓ 24 |
| ✓ 25 |
| ✓ 26 |

Locality Description

- See my previous lists - my loc. CR4.
- As above, my loc. CL1
- As above, my loc. CL2
- As above, my loc. CR3
- As above, my loc. CR6
- As above, my loc. EK1
- Agua Zarca Sandstone Member of the Chinle Formation, Canon del Cobre, New Mexico. My loc. AC1

as of 16-VI-80 ✓ 27

Shinarump Member of the Chinle Formation. Near the intersection of Bear Canyon and Oak Creek Canyon in the eastern part of Capitol Reef National ~~Park~~ ^{Monument}. My loc. CR5. This locality is only a few hundred feet from loc. CR6 where Sample 24 was collected. Also it occurs in the sample stratigraphic unit.

As time passes I'll send some more samples to you.

Dr. Alfred Traverse
November 7, 1977 - Page 2

In looking over the lists of samples sent you previously I see that I made an error on the description of a couple of them. I indicated on one of my lists that Sample 15 came from the locality that yielded the pollen grains Scott (1960) attributed to Ephedra. This is wrong. Actually the grains came from the locality that Sample 14 came from.

There is another Triassic project your graduate student might consider. It would entail a detailed study of the in situ spores of the Chinle ferns. Although I did consider them in my paper on the Chinle ferns much more could be done with them by a palynologist. They could be studied statistically and with the SEM and described in more detail for example. Also they possibly could be correlated with some of the dispersed spores in the Chinle. I have fertile examples of all of the fern leaves known from the Chinle and I will be glad to share them with you. If your graduate student were to work on these spores I would not want to share the authorship with her except for those of Phleboteris. I haven't yet studied that fern. Perhaps she and I should co-author a paper on that fern and its spores. Also I have some little fructifications from the Chinle containing the pollen Pityosporites. I would enjoy co-authoring a paper on the fructification with your graduate student or you for that matter.

I too plan to continue my research on early Mesozoic floras and I will continue to cooperate with you. I hope we can work out a joint project to submit to NSF before much time passes. Yes it would be useful if we could get together for a few days to work on the proposal. At present, however, I am pretty well snowed under with administrative duties and several unfinished projects. I will submit a request for some funds to finance a trip to the East Coast early next year to do the ground work on such a project. If I can't get enough money to get clear to the East Coast perhaps we could meet in St. Louis as you suggest.

More about these things later.

Sincerely,



Sidney R. Ash
Department Chairman

SRA/mh

P.S. Thanks for Bruce's address - I haven't got up the courage to write him yet but I will eventually!!

XXXXX
865-2342

14 October, 1977

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
3750 Harrison Blvd.
Ogden, UT 84408

Dear Sid:

What a thrill to hear from you again, per your letter of 3 October! Good to know you're back safely. I wish I could find out how you manage to get all these marvelous trips abroad. At least I get to enjoy them by reflection.

Thank you so much for the Permian sample. I will have somebody work on it in the palynology course next term. That is one of the fall-out advantages of teaching the palynology course!

It is true that you have sent a great many samples from the Chinle-Dockum in the past. You may remember, however, that most of them were very small chips and that Dunay, Cornet and a procession of undergraduate students have sadly decimated them despite my best curatorial efforts. Therefore, if you were in a position to send a new, rather small, batch of somewhat larger samples from the localities which you know to have been the most productive, I would like to put Deborah Delfel on them with the idea that it would be an introduction to the thesis problem that we have previously discussed. I cannot tell from your letter whether you still think that a joint project in which she would be involved along with you and me is a desirable and viable option for us. I intend to remain active in the Triassic-Jurassic and still entertain the hope that you and I can profit from each other's work, and as soon as the dust has cleared around here from my recent move of office and change of administrative chain of command I intend to get to work on a proposal along those lines. It would be ideal if we could get together somehow to flange this sort of thing up---perhaps meet in St. Louis or something?!

Now regarding the students' term projects, I always entertain a fair degree of open-mindedness about what they say. However, my experience has been that they are more likely to get the sample in too old a period than in too young. I haven't looked at the reports over again but I presume that the early Jurassic age must have been based on things which could not have occurred in the Carnian. You say that I have never given a report on the "last four samples". Am I right in concluding you mean sample 15, and samples 22-25? Sample 25 was worked on by a student in 1973, who reported it to be "Carnian-Norian". Sample 24 was reported on by a student in the same class to be "carnian-Norian". Sample 23 was also worked on by a student in that class who said "Carnian-Norian". Sample 22 also was found by a student to be "Carnian-Norian". Sample 15 was found by a student to be "Carnian?" Sample 14 was run previously by a student who suggested "Triassic-Jurassic transition". Sample 13 was claimed by a student to be "Carnian-Norian". I really didn't intend that you would take the stage to which the students referred these things as gospel, and I'm sure you have realized that. After dictating the above, I have gone back to my letter of March 29th, and I believe I realize what the problem is now. Sample 13 was processed by two different students who got differing results. I do not trust the results of the man who said "Liassic". I would instead back the results of the guy who said "Carnian-Norian". This has nothing to do with stratigraphy but honesty and reliable. Sample 14, however, remains a problem, because the student who ran that was good, and I can't imagine that he would have said "Triassic-Jurassic transition" (upper Rhaetian) unless there were good reasons. However, it is a matter well worth checking. Haven't we corresponded previously about this? That's the trouble with things dragging out too long. I can give you the address for Bruce Cornet, though I'm not sure it is really doing you a favor. You are bound to be bombarded with more 20-page letters about the unlikely Triassic origin of the angiosperms. In any event, his new address is as follows: Gulf Research & Development Co., P.O. Box 36506 (North 1207), Houston, TX 77036.

Betty and I are going out of our minds trying to complete the assembling of Bruce's thesis. He left here, having done the creative part, but not the final drudgery. We really should have just abandoned the whole thing, but it is a very fine piece of work and I have considerable at stake in it, too. Best wishes to Shirley. Hope to hear from you soon.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

7 April, 1978

Dr. Sidney R. Ash
Dept. of Geology & Geography
Weber State College
Ogden, UT 84403

Dear Sid:

Just a little note to let you know that the Ashford Coal (Permian) material you sent me some time ago was issued to a student as an unknown in the palynology course. It yielded a fairly typical coal palynoflora--not the best because too many wood fragments, etc. Nevertheless, it is very helpful to have something representing the Southern Hemisphere Permian, and I had very little previously. Thanks very much.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

25 March, 1978

Dr. Sidney Ash
Dept. of Geology and Geography
Weber State College
3750 Harrison Blvd.
Ogden, UT 84408

Dear Sid:

Thanks for yours of 6 March. I just finished reading your papers on Eoginkoites and Sanmiguelia, etc. and enjoyed them very much. Too bad old Bock didn't have access to an SEM. He was certainly some character, and I am glad that I got to know him before he died. I suppose that what is called his collection in Philadelphia is really only a small fraction of what he really had. I was only with him for about two or three hours, but will never forget it. What an experience.

I don't have any travel money (not being a department chairman!--congratulations). Therefore I will not be attending the AIBS meetings in Virginia, although I would relish the opportunity of visiting my old friend Dewey McLean down there. You would be very welcome to visit here and, indeed, to stay with us either before or after the meetings. I guess if I had my druthers it would be before the meetings because we do contemplate doing some things in July, and it would probably be better to see Sid Ash when that is not complicating matters. I will look forward to getting further details.

Regarding Cornet's thesis--the only copy I have is the one which he was required to leave with his adviser. I had long since run out of slush fund money, and the days of making 25 and 30 copies of theses for distribution have long since evaporated. While you are here you are welcome to make xerox copies of the ~~copies~~ that might be of special interest to you, if that would be of any help. Why not get the library to buy a copy from Cornet?

Best wishes to Shirley.

Yours very truly,

Alfred Traverse
Professor of Palynology



WEBER STATE COLLEGE 3750 HARRISON BLVD., OGDEN, UTAH 84408

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY-2507

March 6, 1978

Dr. Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, PA 16802

Dear Al:

I am beginning to get my plans firmed up for this summer and I now need to learn about yours so we can get together to discuss a cooperative project. I will be attending the Botanical Society of America's meetings in Virginia during the last week of June. I could get together with you either before or after the meetings to discuss our project. Which time would be better for you? At this point it doesn't matter to me whether we get together before or after. I expect to stop by your place either on the way to VPI or on my return journey. While in the east I would like to see Bock's collection in Philadelphia and the ^{USGS} collections in Washington, D.C.

Would it be possible for you to give me a copy of Cornet's thesis? He has offered to sell me a copy for \$25 but my financial situation will not allow me to purchase it at this time. Hope I will be seeing you in June.

Sincerely,

Sidney R. Ash
Department Chairman

SRA/mh



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY-2507

November 7, 1977

Dr. Alfred Traverse
Department of Earth Sciences
College of Earth and Mineral Sciences
University Park, PA 16802

Dear Al:

- Thank you for your letter of October 14. Yes, we had quite an adventure during the past year but we are happy to be back in the states. The principal secret behind our trips is that we don't have a big house, car or family and that our children are in grade school.

I sent you eight Chinle samples for pollen analysis the other day. Hopefully they'll eventually get to you. The samples are as follows:

<u>Sample Number</u>	<u>Locality Description</u>
9	See my previous lists - my loc. CR4.
13	As above, my loc. CL1
14	As above, my loc. CL2
23	As above, my loc. CR3
24	As above, my loc. CR6
25	As above, my loc. EK1
26	Agua Zarca Sandstone Member of the Chinle Formation, Canon del Cobre, New Mexico. My loc. AC1
27	Shinarump Member of the Chinle Formation. Near the intersection of Bear Canyon and Oak Creek Canyon in the eastern part of Capitol Reef National Park. My loc. CR5. This locality is only a few hundred feet from loc. CR6 where Sample 24 was collected. Also it occurs in the sample stratigraphic unit.

As time passes I'll send some more samples to you.

Dr. Alfred Traverse
November 7, 1977 - Page 2

In looking over the lists of samples sent you previously I see that I made an error on the description of a couple of them. I indicated on one of my lists that Sample 15 came from the locality that yielded the pollen grains Scott (1960) attributed to Ephedra. This is wrong. Actually the grains came from the locality that Sample 14 came from.

There is another Triassic project your graduate student might consider. It would entail a detailed study of the in situ spores of the Chinle ferns. Although I did consider them in my paper on the Chinle ferns much more could be done with them by a palynologist. They could be studied statistically and with the SEM and described in more detail for example. Also they possibly could be correlated with some of the dispersed spores in the Chinle. I have fertile examples of all of the fern leaves known from the Chinle and I will be glad to share them with you. If your graduate student were to work on these spores I would not want to share the authorship with her except for those of Phlebopteris. I haven't yet studied that fern. Perhaps she and I should co-author a paper on that fern and its spores. Also I have some little fructifications from the Chinle containing the pollen Pityosporites. I would enjoy co-authoring a paper on the fructification with your graduate student or you for that matter.

I too plan to continue my research on early Mesozoic floras and I will continue to cooperate with you. I hope we can work out a joint project to submit to NSF before much time passes. Yes it would be useful if we could get together for a few days to work on the proposal. At present, however, I am pretty well snowed under with administrative duties and several unfinished projects. I will submit a request for some funds to finance a trip to the East Coast early next year to do the ground work on such a project. If I can't get enough money to get clear to the East Coast perhaps we could meet in St. Louis as you suggest.

More about these things later.

Sincerely,



Sidney R. Ash
Department Chairman

SRA/mh

P.S. Thanks for Bruce's address - I haven't got up the courage to write him yet but I will eventually!!



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84408

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY-2507

October 3, 1977

Dr. Alfred Traverse
Department of Geosciences
College of Earth and Mineral Studies
University Park, PA 16802

Dear Al:

Well we've finally got back to the U.S.A. and we're in the process of un-
packing, sorting our mailing, and generally trying to get caught up on
unfinished business.

One bit of unfinished business I am taking care of now. as you may recall
I offered to send you some samples of Permian strata from Australia for pollen
analysis. As it happened I was only able to get one such sample and I never
got around to sending it along. That sample is enclosed with this letter.
It comes from the Ashford Coal Measures near Ashford, N.S.W. and is of Permian
age. Hopefully it will prove to contain something of interest to you.

(Chinle-Doonum)

I have gone over my₁ collections and compared them with the lists of samples
I have sent you in the past. It seems that I have sent you samples from
nearly all of my localities. If your graduate student needs a larger sample
of any of those I sent you please let me know.

Say, I have just taken the time to think about the results of the term projects
you told me about in your letter of March 29, 1976. I am not sure if you
accept the^{se} results completely but the Early Jurassic age suggested for samples
13 and 14 is quite confusing as I had expected the samples to be of Carnian
age (if not older) similar to No. 15 or Samples 22-25. You have never given
me a report on the last four samples but they came from what I would judge
to be about the same stratigraphic position as samples 13-15. Perhaps the
stratigraphy of the localities where samples 13-14 came from is more complex
than usually thought.

Can you give me the present address of Bruce Cornet? He wrote me a long letter
many months ago but the letter wasn't forwarded. I'd like to discuss his re-
marks with him but I don't know where to write him. *Thanks*

Sincerely,

Sidney R. Ash
Department Chairman

27 July, 1977

Dr. Sidney Ash
Department of Geology
University of New England
Armidale NSW, Australia 2351

Dear Sid:

Thanks for yours of 8 July. I have discussed it with the graduate student in question, Deborah Delfel, a charming and talented young (23) woman whom you will like. (She is, withal, 1/16 Indian!).

It is clear to me that the correct approach would be to take the line suggested in your "no. 1"--how part of Chinle--that way we could get started right away. (However, the samples you sent earlier were quite small in some cases, and we would want more whenever possible.) Deborah can use the slides made by various students from the existing samples and begin her own processing.

Sooner or later Deborah (and probably I) would want to visit the areas with you--possibly summer of 1978? I would think that it might be possible later to commence also the study in detail of a selected locality or two, as you suggest in "no. 2". That sounds very interesting too.

So, in brief, Deborah will begin immediately studying the literature about Chinle-Dockum, and study of existing slides and samples. We'll be in touch with you during the fall regarding additional samples and a little later about field plans for 1978. Perhaps an NSF proposal from each of us, zeroing in on the problem from our two vantage points would be prepared during 77-78 also. We certainly have discussed that possibility often enough! (And I was encouraged in it by the head of the appropriate NSF division.)

All the best to you, Shirley and the kids.

Yours very truly,

Alfred Traverse
Professor of Palynology

July 8, 1977

Dear Al

Your letter written in early May arrived yesterday - it came by surface mail. Consequently this reply may be too late to help you and your graduate student make plans. Hope not.

In any case I'll go ahead and let you know my feelings and ideas on your proposed project. Yes I'll be delighted to cooperate with you on a study of the pollen/spores in the Chinle. There is a minor problem, however - We won't return to Ogden until the middle of September and classes start a few days later. I might be able to take a long weekend in late September or in October (if the weather doesn't break ^{too} early) and do some collecting in nearby areas. Except for this possible short field trip I won't be able to do any collecting until the Spring and Summer of 1978 which might be too late for your graduate student.

I can think of two possible projects for your student:

- (1) A study of the microflora in the lower part of the Chinle at the several scattered leaf localities which I have collected at in Arizona, Utah, and New Mexico. I have already furnished you with samples from some of these localities and I could send you more shortly after we return to Ogden. If I were to go collecting I could obtain more of this material. In summary then this would be a ^{study of the} regional distribution of palynomorphs in the basal Chinle. If ^{might give} us a handle on the age of the ^{basal part of the} Chinle in various areas. Probably the basal part varies in age from place to place.
- (2) A study of the ^{vertical distribution of the} Chinle microflora at one or two (or more) selected localities. An ideal area for this would be able to tie down the ^{where you have already} ^{area} ^{you} ^{sample sent} ^{Tricer. You} ^{collecting samples}

I won't be able to stop to Ogden. I'm on our way other stops to

for a day or so... Perhaps your student could start out with project (1) & go acquainted with the Chile species/pollen and then next summer work on the vertical distribution project after I've had a chance to collect ^{here}. I really don't know what else could be done but I'm sure you could think of other projects. Perhaps a study of the *Salpiglossis* in just one member of the Chile or in just one area, such as southern Utah?

I haven't forgot ~~my~~ ^{my} promise to get you some Peruvian slides ~~of the~~ pollen analysis - I have some but I just haven't sent it off yet.

We leave here around 15 August so if you want to contact me about these projects, ^{before we leave} send your letter AIR MAIL!

I left your letter at the office so I don't have your address at Penn. State. ~~and~~ I want to send this letter off today so I'll have to send it to your home address

THIS FORM MUST BE PLACED IN FRONT OF THE ENVELOPE

Australia POSTCODE 2311
 Armidale NSW
 RMC
 Geol Dept
 S. Ash

SENDER'S NAME AND ADDRESS

COUNTRY OF DESTINATION

U.S.A.
 Pennsylvania 16652
 Huntingdon
 R.D. 2 Box 298
 Dr Alfred Trause



AEROPROGRAMME

BY AIR MAIL PAR AVION

5 May, 1977

Dr. Sidney Ash
Department of Geology
University of New England
Armidale NSW, Australia 2351

Dear Sid:

I hope this gets to you before you have headed back for North America! I just noticed your abstracts in the abstracts for papers for the North America Paleontological Convention--which as far as I know, I will be unable to attend.

I have a new (fairly new) graduate student, Deborah Delfel, who is interested in continuing our emphasis on the Triassic-Jurassic. I can think of a number of things that she could do for an acceptable doctoral program, but one that appeals to me would be to tae in palynology with your work in the southwest. How does this grab you? She's a very good student. If you are interested, what sort of approach do you think we could take, assuming the very worst--that we don't get any grant support and therefore field work is not going to be easy to fund. I suspect that a program could be made up quite nicely from materials you already have available.

Looking forward to hearing from you on this matter and perhaps a bit more on when and whether you might drop in on us here, I am

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

14 February, 1977

Dr. Sidney Ash
Department of Geology
University of New England
Armidale NSW, Australia 2351

Dear Sid:

Would you believe--I am just now opening your letter of 17 December, 1976! It was fun to hear about what Christmas was like in Australia. I also was, of course, fascinated to hear about your lycoped (?) cone, and other matters.

Of course, when you are coming through this way do plan to stop with us in Pennsylvania, and we can indeed talk about the possibilities of a joint and/or cooperative project on the Triassic-Jurassic. Just let us know far enough ahead so that we won't be out of town.

I would indeed have use for small samples of Permian and Triassic coal or (better) coaly shale. I'm especially devoid of Permian material. I just don't have anything of that age. I will convey your information about the Pagiophyllum to Bruce Cornet, who is putting the finishing ~~stages~~ thesis.

All goes well here excepting that we have had a very difficult time with a lot of personal problems in the past three months, and it has knocked my work into a cocked hat. Nevertheless, one Ph. D. student is finishing, and as I have said, Bruce is not far from the end. I hope to get my research cranked up again fairly soon. It would help if winter would give us a break. We just moved into our new house, and winter on top of it has been very difficult. Best wishes to Shirley and the kids.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT/et

cc: Bruce Cornet

Dec 17, 1976

Dear Al

Well here we are - the land of the Kangaroo, etc. It sure doesn't seem like the Christmas season as the sun shines brightly each day and the temperature gets into the 80's. I guess there isn't much chance of a white Christmas here!

My quest of the willy cycad has ^{not} been very successful yet. I do have a number of Taeniopteris and Platophyllum-like leaves but they do not have cuticle so it is impossible at this time to determine if they are benneittiales or not. Oh well I've got another 8 months to go and perhaps I'll find something useful.

Currently I am working on a cone which may belong to the Zycopods but it is very unusual if it is. Anyhow it contains large megaspores of the Horstisporites type and some simple trilete microspores.

I still hope to work on the floral zones - the Triassic when we get back to Ogden. I'd hoped to submit a proposal to NSF before we left but there just wasn't time. Perhaps we can stop in Pennsylvania on our way home next September (or late August) and we can discuss the ~~the~~ possibilities of a cooperative project at that time.

Some time before we left Ogden Bruce Cornet sent me a nice specimen of Pagiophyllum which I neglected to acknowledge. If he is still around please tell him that many thanks from all of us - Sid

P.S. Would you have any use for some
samples of Peruvian and Triassic coal?

FOLD FLAPS BEFORE MOISTENING GUM. FOR

S. Ash
Dept. of geology
univ. of new england
Armidale N.S.W.
Australia POSTCODE 2351

SENDER'S NAME AND ADDRESS

COUNTRY OF DESTINATION

Dr Alfred Traverse
529 Deane Bldg.
Pennsylvania State University
University Park
Pennsylvania 16802
U.S.A.

Stevogramme
Joy Skin Mail
San Juan



Christmas 1976



July 14, 1976

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, UT 84403

Dear Sid:

Enclosed is a xerox copy of a term report by Jim Bane on some of the samples you have sent me from time to time. The systematics are not to be taken too seriously, but for a relatively inexperienced undergraduate, Jim did a pretty good job, and I thought you would be interested in his conclusions. Where does this leave us *vis à vis* samples you have sent on which you would still like more information?

I hope everything is going well with you and I am looking forward to hearing more about you soon, I am

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jeb

Enclosure: xerox copy of term paper

XXXXXX

April 19, 1976

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thank you for yours of 9 April. We are looking forward to receiving the samples. The student (Jim Bane) will run them during the rest of the term, although some of the rest of us may have a look at sample 13 as well! More information on that later.

I'm glad to hear that the preliminary proposal material will be coming, as I think that will be important in producing what Bharadwaj and I may get up. Incidentally, I have looked at my correspondence with "D.C.", and find that no one letter really covers what I wanted to send you. However, the enclosed copy of a letter from Bharadwaj should fill you in as to the possible trend of things. I think it would be better at this point not to mention your possible involvement to Bharadwaj, as this might muddy the waters unnecessarily. That can come later! Best regards.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

Enclosures xerox copy of letter from Bharadwaj



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84408

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

April 9, 1976

Dr. Alfred Traverse
College of Earth and Mineral Sciences
Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

I am sending you under separate cover a few more samples of Triassic strata and also some more of samples 13 and 19.

The locality data ^{are} is as follows:

<u>Sample Number</u>	<u>Locality</u>
13	See my previous list.
19	See my previous list.
22	Lower part of Petrified Forest Member of the Chinle Fm., southeast of St. Johns, Ariz. My locality ST1.
23	Lower part of Petrified Forest Member of the Chinle Fm., near west entrance to Capitol Reef National Park, Utah. My locality CR3.
24	Coal beds in the Shinarump Member of the Chinle in central part of Capitol Reef National Park, Utah. My locality CR6.
25	Shinarump Member of the Chinle at "the Notch" on Elk Ridge, Utah. My locality EK1.

See also letter of 13-Nov-73

I'll start roughing out a preliminary proposal and send it to you in the next month or so. I've got some other irons in the fire, however, which I must finish before starting the proposal.

Hope you find something good in the samples. If you want more let me know.

Best regards.

Sincerely,

Sidney R. Ash
Professor of Geology

XXXXXX

April 6, 1976

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, UT 84403

Dear Sid:

Regarding the student reports which were conveyed in mine of 29 March--Cornet and I have looked over a couple of them and looked at the slides, which we had not done previously (I simply reported the results the students had indicated). Sample No. 14 was incorrectly dated by the student, although for an undergraduate whose first experience was the course it wasn't too bad. He said Lowest Jurassic, and it looks more typically Carnian (in other words, like Shinarump member materials we have seen previously). The same student is working on some more materials this term, and I will get to him with the information that he better sharpen up his understanding of the palynoflora differences between Lowest Jurassic and Upper Triassic.

Regarding Sample No. 13, the student's suggested age was indicated by the slide seems to be "right on". The difficulty is that this particular student is known to be not particularly adept in the lab, and we are fearful that contamination may have been the problem, though we have no idea how it could have occurred. I think that the best solution, and one that would be of interest to both Cornet and me would be for you to provide us with some additional sample material for sample no. 13. It is from your locality CL1, as you know from the xerox of the sample list which I sent you with the last letter. As Bruce and I have just been discussing, it would be something of a shock to discover that material from the Shinarump member was Liassic!

Looking forward to hearing from you about this and about the other matters which I brought up in my letter and with best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

P.S. Bruce reminds me to mention to you that the Whitmore member of the Moenave formation occurs in the vicinity of your collecting locality, and it's an interesting thought that perhaps the sample

really did come from Whitmore material. In fact, it would be of interest to me if you do go back into the field to get some more material of this stuff if we would get samples which you know to be ~~Manave~~ and have the right lithology for us to run. It really is annoying that this sample that might turn out to be most interesting and critical was given to a student who couldn't handle it properly. (If that turns out to be the case--actually, the slides are quite good!)

March 29, 1976

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah - 84403

Dear Sid:

I haven't heard from you recently about your continuing interest, if any, in the joint Triassic, megafossil-palynomorphs, approach to the Triassic of the world! I am reminded of this for several reasons. One is that I am trying to raise the money to go to the Fourth International Palynological Conference in Lucknow, India, in December of this year. One of the approaches I am using is the suggestion of working on a proposal in collaboration with Bharadwaj on the Triassic of the world. In my preliminary proposal I am mentioning the preliminary talks which you and I have had about the possibility of such a project, in which you would also be involved. So please do keep in touch on this matter!

The other thing that reminds me of you at this time is that in my course on palynology last term I issued some (most) of the samples you sent me in 1973 (could it be that long ago?), as term projects to various people. Some of them got very good residues, and with my help and that of Cornet we were able to produce pretty good little reports and quite decent slides and residues. Several of the samples were not run, however, and I have given them to another (more experienced) student to work on a special project this term. However, I thought you might be interested in what we have already obtained, as follows:

Sample No. 12 (processed by Ken Kaehn): student's guess on the age is Carnian

Sample No. 13 (processed by Roberto Arstein) suggested age by the student is ~~Triassic~~-Hettangian?
Triassic

Sample No. 14 (processed by Jim Bane): age suggested by the student is lowest Jurassic?

Sample No. 15 (processed by Carmen Tavera): very sparse palynoflora; suggested age: Carnian-Rhaetian.

Sample No. 17 (processed by C. Boyer): aggesuggested by student:
Carnian.

Sample No. 18 (Procedsed by B. Tomikel): sample barren

Sample No. 19 (processed by Bob Milankovich) reported to be
barren (this student was one of the weakest in the class,
and I do not necessarily believe his result.)

Sample No. 00 (processed by Ken Kuehn) sample barren (this is a
good student, and I think we can accept his result as correct.)

Let me know if further information about these samples would be
helpful. I have the reports from each student. Regarding sample
19, by the way, there is not sufficient material remaining to try it
again. If you have any of that available, you might send it along,
and I can have the student who is working for me this term try it
again.

I am enclosing a xerox copy of the list of samples, in case you
can't put your hands on yours.

Best wishes to you, my old friend Shirley, and those delightful
kids of yours.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

Enclosure: xerox copy of sample list.

For Bane - or was he here?

Sample Number

Locality Data

- 11 "Cuticle Shale" from Petrified Forest National Park Arizona at my locality PF10 which is also USGS loc. 10090. Lower part of Petrified Forest Member of the Chinle Formation.
- 12 Gray Shale in the upper part of the Monitor Butte Mbr. of the Chinle Formation at my locality FW4 south of Fort Wingate, N.M. USGS loc. 10061.
- 13 Shinarump Mbr. of the Chinle Fm. at a uranium prospect a few thousand feet north west of the Lamp Stand in the Circle Cliffs, southern Utah. My locality CL1.
- 14 Shinarump Mbr. of the Chinle Fm. at a uranium prospect a few miles west of the Blue Bird prospect in the Circle Cliffs, southern Utah. My locality CL2.
- 15 Shinarump Mbr. of the Chinle Fm. at a uranium prospect on the south side of Capitol Wash in Capitol Reef National Park, Utah. My locality CR1. This is the locality from which Scott obtained the grains he called Ephedra in 1960.
- 16 Carbonaceous shale in the mudstone - sandstone unit of the Chinle Fm. near the Four Aces mine in the White Canyon area, southern Utah. My loc. WC1.
- 17 Lower part of the Monitor Butte Mbr. of the Chinle Fm. at the mouth of Canyon de Chelly, Arizona. My loc. CD1 and USGS loc. 10093. See my 1972 paper on Dechellyia, etc. for additional data.
- 18 Dockum Group in a gully on the east side of the highway in the SE NW NE, Sec. 22, T. 15 N., R. 32 E., in northeastern New Mexico.
- 19 Lower part of the Monitor Butte Mbr. of the Chinle in the NW SE SW of Sec. 13, T. 13 N., R. 14W. in western New Mexico. My locality AZ2.
- 20 Lower part of the Chinle Fm. in Dinnebito Wash about 10 miles northeast of Grand Falls of the Little Colorado River. My locality DW1.
- 21. A specimen of Clathropteris walkeri from the lower part of the Petrified Forest Member of the Chinle Fm. in Petrified Forest National Park, Arizona. My locality PF1 and Daugherty's P3901-1. Also USGS loc. 10062. Sorry I do not have a fertile leaf to send along.

THE PENNSYLVANIA STATE UNIVERSITY

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UNIVERSITY PARK, PENNSYLVANIA 16802

College of Earth and Mineral Sciences
Department of Geosciences
Palynological Laboratories

Area Code 814
865-6543

February 18, 1976

Dr. Sidney R. Ash
Dept. of Geology and Geography
Weber State College
Ogden, Utah 84408

Dear Dr. Ash,

Thank you for your helpful letter of 19 January. Your comments on the correlation chart are astute, and have been considered at length. Although there is little stratigraphic information available for the distribution of Dinophyton and Eoginkgoites in the Newark Supergroup, placing the Carversville locality below the Little Conewago Creek locality is necessary for your zonation to be applicable in the east. In fact, I am quite agreeable now, because the Little Conewago Creek locality (in general) has produced a typical Lockatong fish fauna.

Although David MacLachlan's comment on facies relationships in the upper Stockton is correct, the Carversville locality is still Stockton Fm., just as the Lockatong-like gray units in the lower Passaic Fm. (lowest Brunswick Fm.) are part of the Passaic Fm.

Sample U19 is productive, and has produced perhaps the oldest Late Triassic palynoflora in the Chinle Fm. Patinasporites densus is absent, although Vallasporites ignacii is present. Such a condition is only found in the oldest Newark Supergroup, and suggests an age near the first European occurrence of V. ignacii in the lowest, late middle Carnian, but before the appearance of Patinasporites higher in the late middle Carnian. Thus, U19 appears to be of similar age as HP and LV, although Aratrisporites is absent in U19 (as well as absent at locality HP). A common bisaccate, similar to, but not identical with, the distinctive Cucullispora cuneata Scheuring, is also present in U19. C. cuneata is restricted in Europe to the early Carnian.

Thank you for your comments on Glyptolepis, Pagiophyllum simpsonii, and Masculostrobus. I will have to complete my literature search before making conclusion on the validity of Glyptolepis as a name for a cone. The specimen of Pagiophyllum sp. 2 that I sent you may not be typical, because I have a large branch system with leaves identical in shape, etc., to the specimen of P. simpsonii in the plastic disk. In fact, I could "graft" your specimen to mine and would see no distinction. I will send you the counterpart for confirmation. By the way, how and with what material did you make the plastic disk?

Bock had a vivid imagination prone to expression in his publications. Even though he states that cones were found attached to

branches, and cites his holotype as evidence, he also states on page 297 that this "Coniferous tree (was) of medium to large size..." But his drawing of the holotype shows no such cone, and presumably he would have included such evidence in his drawing in preference to the disarticulated specimen (cluster of seeds) in figure 515. Furthermore, his concept of a cone of Rotundolepis is a loose arrangement of seed scales....hardly in agreement with my evidence. Nevertheless, I should attempt to locate and examine his holotype, etc.

Paul Olsen has noted no significant vertical change in reptiles in the lower Newark, although there may be a significant fish faunal change at or near the floral "boundary". We have documented a Vinita- and Coal-beds fish fauna (which may be subdivided) in the Richmond Basin that is replaced by a markedly different, Lockatong fish fauna in the Gettysburg and Newark Basins, but more evidence is needed in order to isolate the stratigraphic level of this change.

Two significant discoveries that have a bearing on the age of the upper Chinle Fm. were made this last month. Fred Peterson at the Denver branch of the U.S.G.S. sent me samples from the Whitmore Point Member of the Moenave Fm. near Pipe Springs, Arizona, which yielded a lower Liassic palynoflora similar to that of the upper Newark. Re-worked Chinle bisaccates (poorly preserved) also occur in one sample. This evidence supports a Late Triassic age for the Wingate Fm. (with phytosaurs) and perhaps also the Dinosaur Canyon Member, but the thickness of those units leaves little room for the Norian and Rhaetian if the Chinle Fm. is restricted to the Carnian.

The second discovery is rare Camerosporites pseudoverrucatus at my M-4 locality from about 4,300 stratigraphic feet above the Lockatong Fm. Sample M-4 has abundant C. verrucosus, typical of the Norian, but C. pseudoverrucatus in Europe is supposedly restricted to the Carnian. I prefer to believe that C. pseudoverrucatus lingers on into the lower Norian in the Newark, rather than add much additional strata to the already very thick Carnian sequence (9,200+ stratigraphic feet) in the Newark.

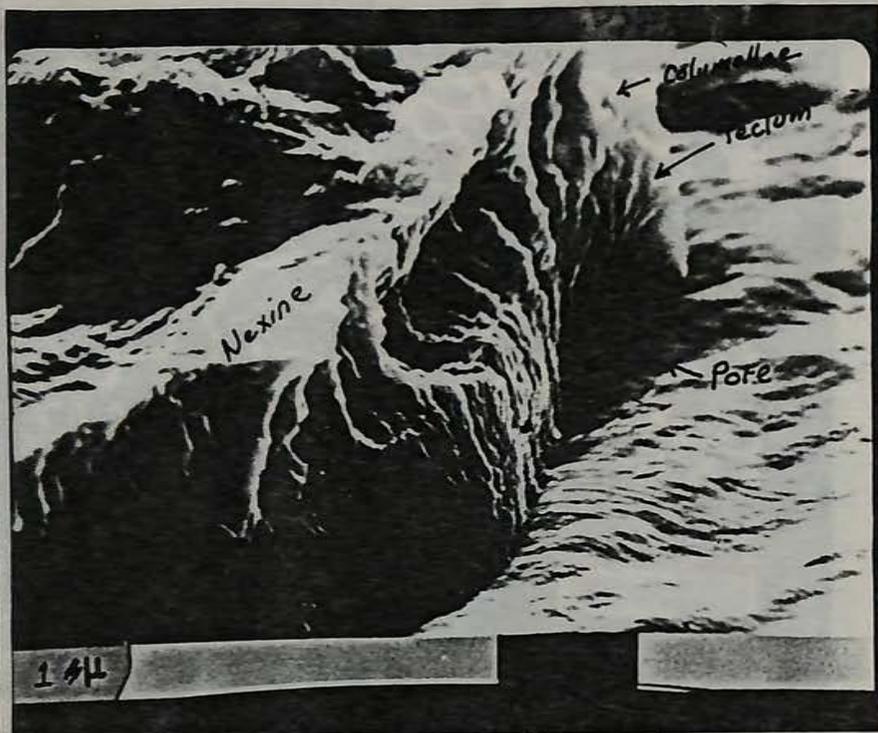
The rare presence of C. pseudoverrucatus in the upper Chinle has been one major reason for restricting the Chinle to the Carnian. But when one considers the stratigraphic range of Genus A (of Dunay) in the Chinle and Newark, there should be considerable overlap. I have assumed that Genus A is present throughout much of the Lockatong Fm. (late Carnian), because of its rare occurrence at the top of the Lockatong, and the great similarity of palynofloras between the Little Conewago Creek palynoflora and the top of the Lockatong Fm. (no palynofloras have been found in the remainder of the Lockatong Fm. in the Newark Basin). If my assumption is wrong, and Genus A has a similar lower range in both the Chinle and Newark, then we (I) have some reinterpretation to do. At the very least, we probably should push the uppermost Chinle (Owl Rock Mbr.) into the lower Norian (against Dunay and Fisher's 1974 opinion). Perhaps the paleomagnetic reversals in the uppermost Chinle do correlate with similar reversals in the lower Passaic Fm. (just below the Perkasio Member and locality M-4). What do you think?

Your admonition about my discovery of pollen of possible angiosperm affinity is appreciated, and until last week's session with the SEM, I would have reason to be cautious. Now I have some very exciting proof of exine structure (SEMG's of broken walls), which demonstrates the absence of any gymnospermous characteristic (laminated endexine), and the presence of tectal perforations and columellae in six species. Two, Myristica-like monosulcate species from the Norian even have relatively advanced, semitectate exines. Nymphaea-like zonosulcates and Magnolia-like anasulcates are present in the late Rhaetian, all with typical angiosperm exine structure. I await Walker's evaluation of my recent discovery. A number of tantalizing photos are included.

Sincerely yours,

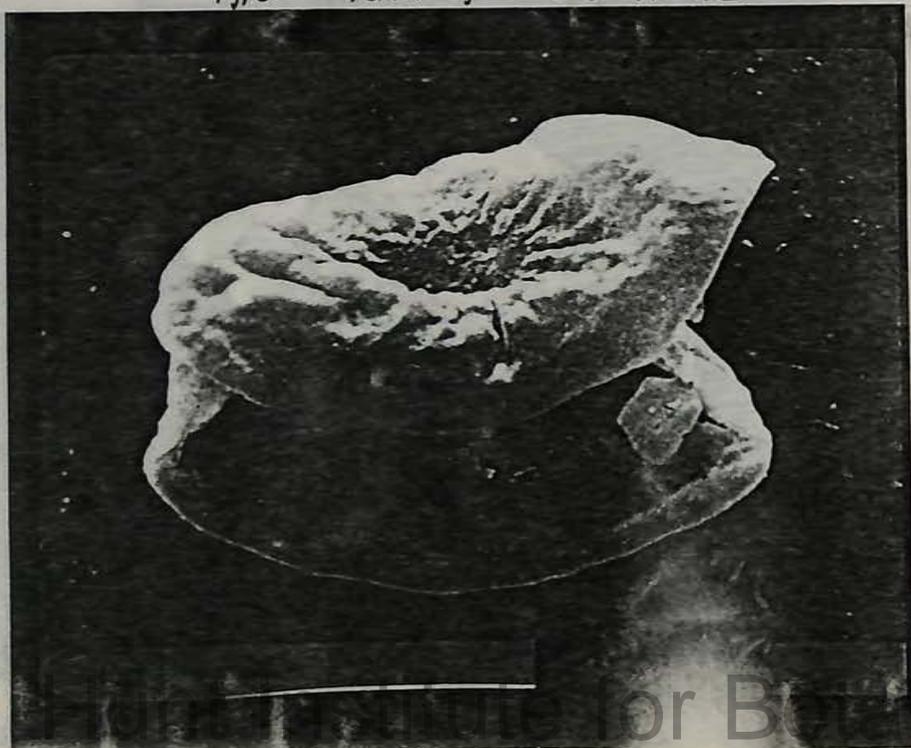
Bruce

Bruce Cornet

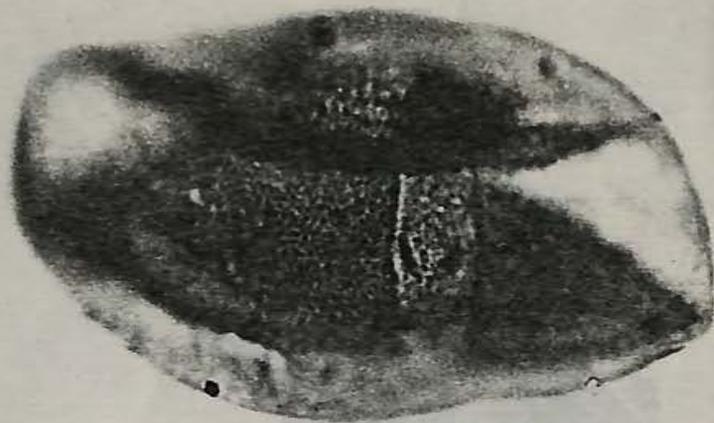


Wall structure of Type U

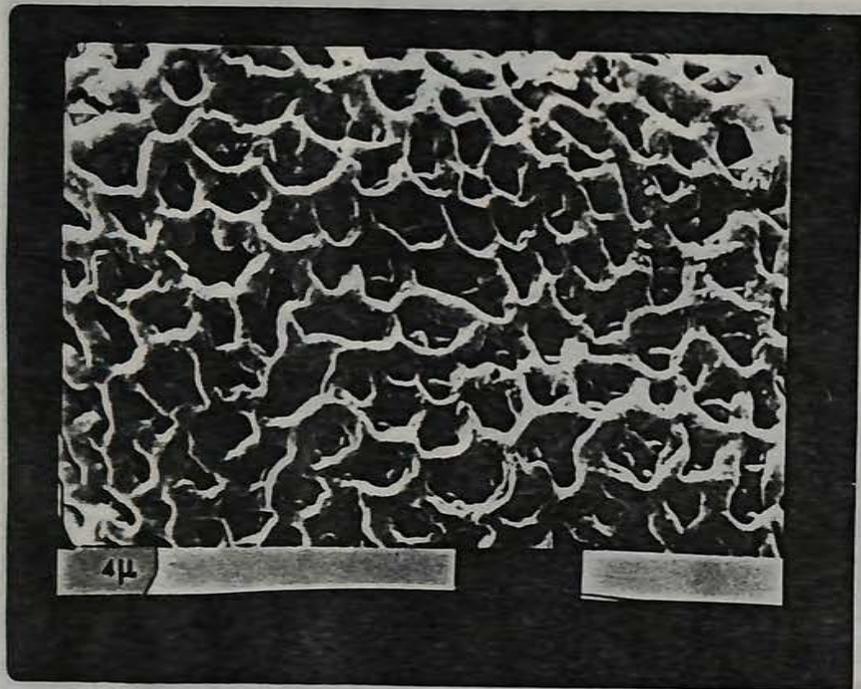
Type U Perforate, Tectate columellate



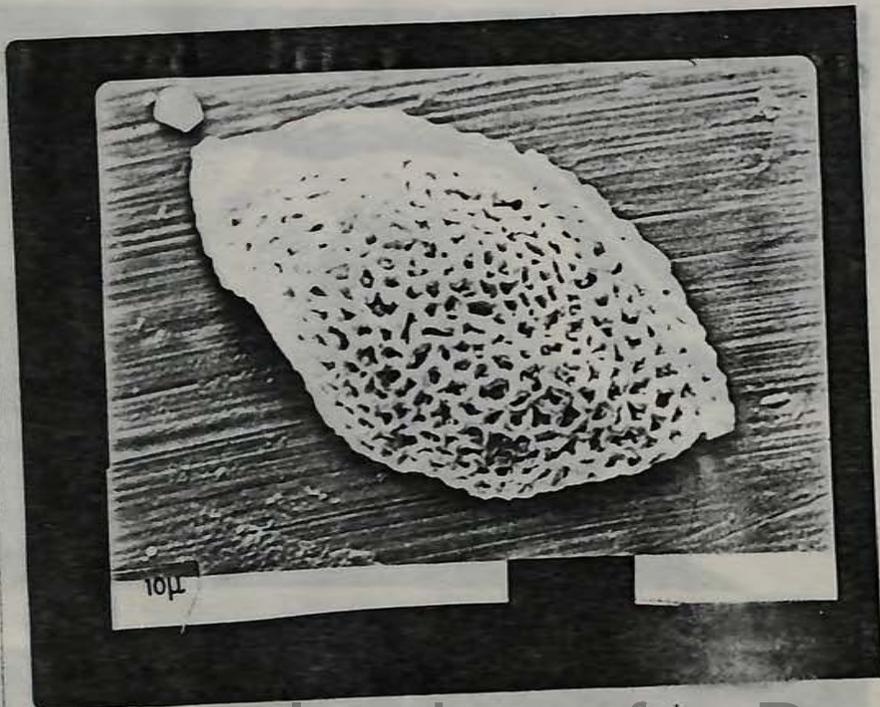
late Rhaetian Type U note perforations
63w X 37w



late Rhaetian Type U note pattern of
Columellae



semi tectate Retimonocolpites sp. 1 Norian



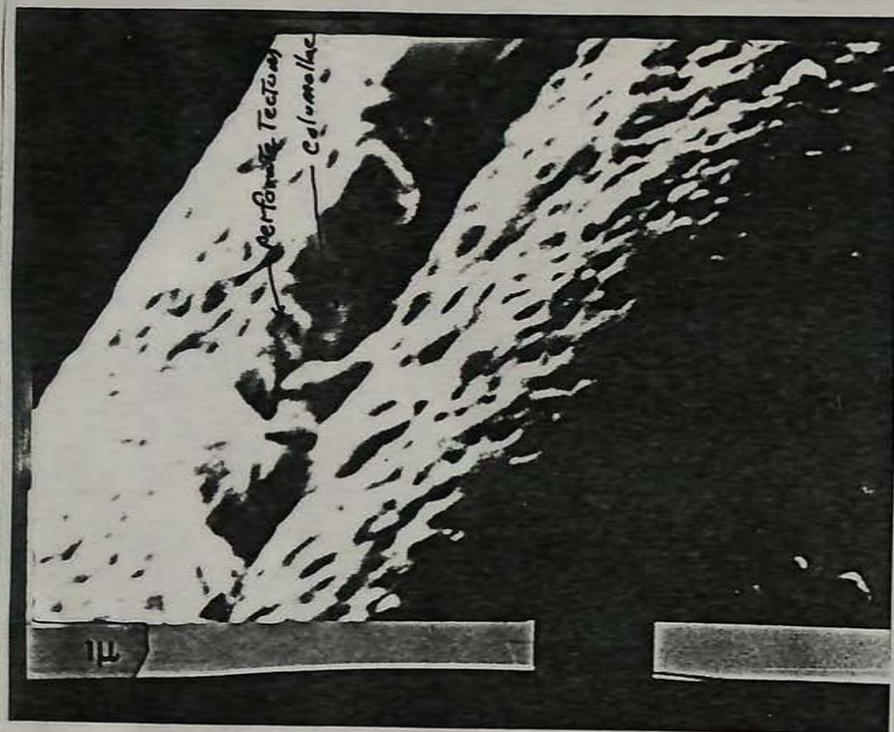
semi tectate Retimonocolpites sp. 1 Norian



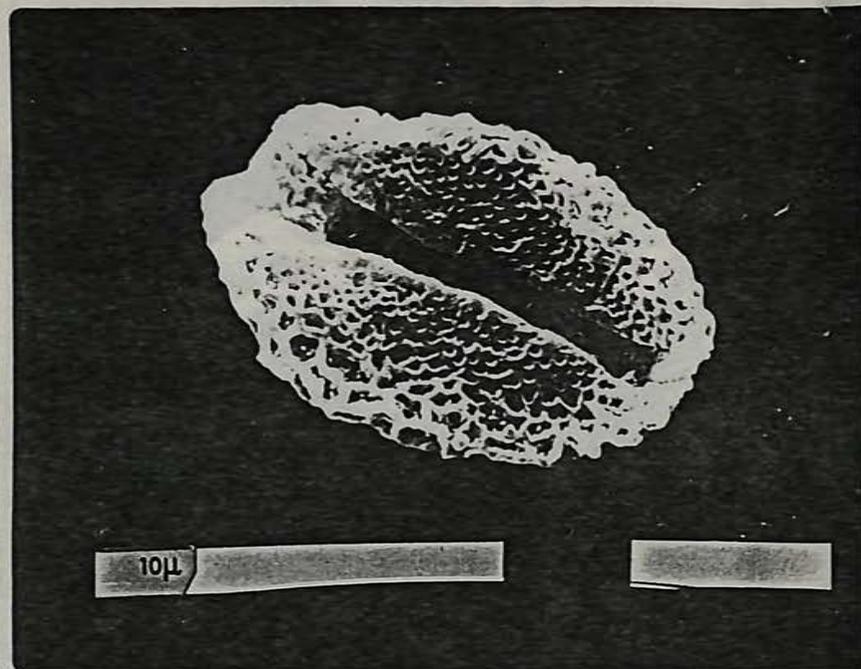
Retimonocolpites sp. 1



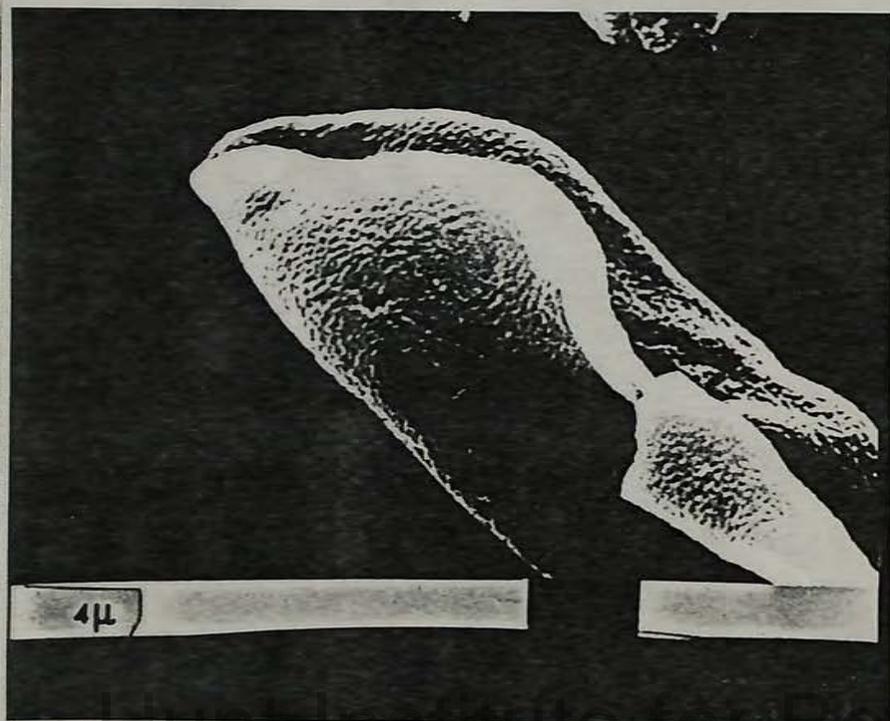
Retimonocolpites sp. 2



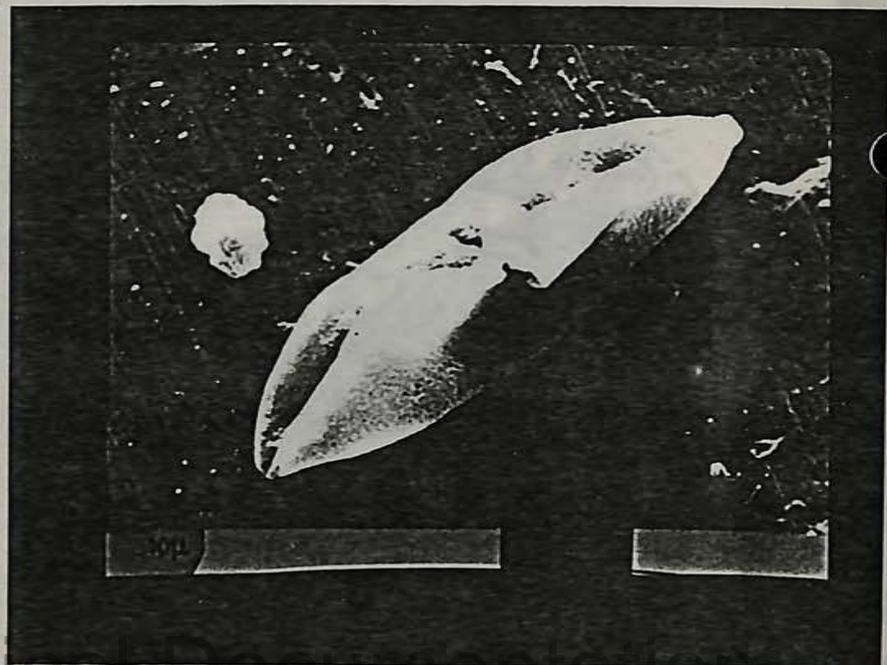
Type 9



Semitectate Retimonocolpites sp. 2 Norian

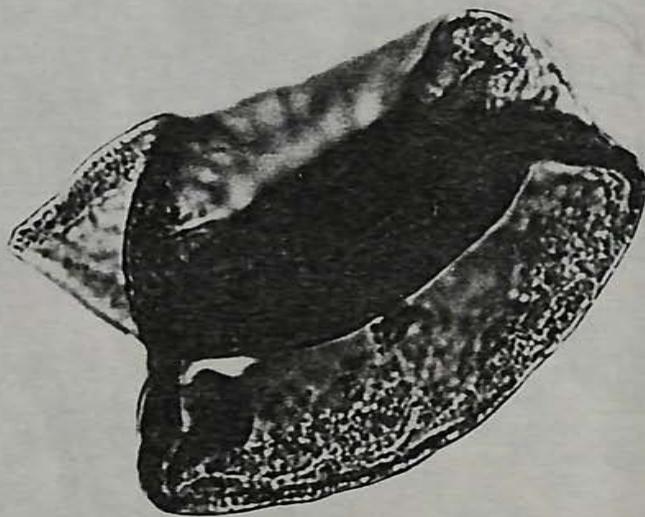


Type 9



late Rhaetian Type 9 perforate, Tectate-Columellate

Type N Perforate, Tectate columellate



Salbeck
January 16, 1976
Fidelity Onion Skin
SECTION

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, UT 84403

Dear Sid:

Thanks for yours of 10 December which I just got around to digesting thoroughly, post Christmas-rush! By all means include me in on the Triassic work you contemplate. I think I might be able to add something, though I certainly should be the third author. (Of course, if we agree on alphabetical order that's the way it would work out any way!) Keep us posted on your progress. I personally look forward to your sojourn here with great anticipation. Let me know anything that I should do to help it along. Best wishes.

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

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Pablita Velarde,

268-2984

ARTIST

With best wishes - Pablita Velarde
805 Adams N.E. Albuquerque N.Mex
8/11/20

Dec. 20, 1975

File as per instructions See 444

Pablita Velarde

Famous Indian Artist from Santa Clara Pueblo

Christened Tse Tsan (Golden Dawn) in the Tewa language of her people, Pablita Velarde was born in 1918 at the Pueblo of Santa Clara which is about twenty miles north of Santa Fe, New Mexico.

During early childhood Pablita attended St. Catherine's Mission School at Santa Fe where she first learned to speak English. At seventeen she was graduated from the Santa Fe Indian School where she studied art under the direction of Dorothy Dunn, pioneer instructor of now famous Indian artists. While in school Pablita was greatly influenced by Tonita Peña, the first Indian woman painter. Tonita introduced Pablita to the magical world of art, and through this friendship she became interested in the interpretation of the proud traditions of her people. After graduation Pablita spent the next two years as assistant art teacher at the Santa Clara Pueblo Day School.

In 1938 the famous naturalist and lecturer, Ernest Thompson Seton, and his wife invited Pablita to accompany them on a lecture tour of the United States. Although suffering an occasional feeling of homesickness, this experience was most revealing to the shy, sensitive young Indian girl who had never before journeyed from the northern part of her native New Mexico. Upon her return to Santa Clara, Pablita literally built her own studio—doing everything herself except the most manual of labor. Satisfying an all-consuming urge she was unable to resist, Pablita began to paint and record the ancient ways of her people lest their true meaning be forgotten or lost forever.

From 1939 to 1941 Pablita was employed by the Government in a CCC project to paint murals for the Museum at Bandelier National Monument in New Mexico. These early paintings are considered to be among some of Pablita's greatest achievements. Much detailed knowledge and depth of vision was required in these composite pictures which so vividly portray the daily life and crafts of the Indians of the Rio Grande Pueblos.

Pablita's art reveals a work that expresses basic integrity and a faithfulness to her people and to her culture. Knowing her material most thoroughly, this versatile Indian woman sets down with conviction and originality the deep, rich symbolism of pueblo life. She is adept in handling styles from naive realism to the most esoteric abstract. Through intensive study and exploration of the legendary and mythological aspects of her Pueblo, Pablita's contribution to art and ethnology is of enormous value. Although skilled in media such as casein and oil, Pablita is famous for her earth paintings. This technique was employed by her ancestors in their kiva murals. Using hand-ground rock and earth beautifully colored by Mother Nature, Pablita's secret formula produces distinctive earth paintings which convey an impression of endless source material at this artist's facile brush tip.

Many honors have been bestowed upon Pablita by the Gallup Inter-Tribal Indian Ceremonials, the Philbrook Art Center, the New Mexico State Fair, the Santa Fe Indian Market and the New Mexico Arts and Crafts Fair. In 1953 she won the Philbrook Art Center's Grand Purchase Prize. At the Gallup Ceremonials in 1954 she was presented the coveted French Government award, *Palme de Academiques*, for originality and excellence in art. In 1955 Pablita swept the entire Inter-Tribal Ceremonials with numerous awards, and that same year she received special recognition from the Twentieth Century Art Club of St. Louis, Missouri.

In 1956 Pablita was commissioned to do a Corn Dance mural for a building in Houston, Texas, and in 1959 she did an earth painting mural for the Western Skies Hotel in Albuquerque. Inspired by a Navaho sand painting, this magnificent mural depicts the legend of the "Buffalo Who Never Dies."

Pablita was commissioned in 1960 by the New Mexico Magazine to do three interpretive Indian paintings of the Nativity Story for the Christmas issue. Christmas cards are now available in several different versions of the Christmas Story by

Pablita Velarde. During 1960 Pablita also completed a large oil painting mural of the Santa Clara Buffalo Dance for the First National Bank at Los Alamos, New Mexico. After years of preparation, one of Pablita's most significant achievements was the publication in 1960 of her book of tribal legends, "Old Father, the Story Teller," which is illustrated in color with her excellent legend paintings. Winning an award for the Best Southwestern Book of the Year, this extraordinary book is simply and charmingly written and opens to view events and ideas heretofore unknown outside the Tewa world. One of the legends, "The Stars," is a migration myth of the Santa Clara tribe, and is illustrated by the title painting, "Old Father, the Story Teller." The ingenious composition of this unusual work, its profound concept and illusion so convincingly produced by the artist, destined "Old Father, the Story Teller" to go down in history as a very great American painting.

In 1964 Pablita won the Walter Bimson Grand Award at the Scottsdale National Indian Arts Exhibition, and during that year she was honored at the Central Florida Museum at Orlando where she exhibited her paintings and lectured. In 1966 Pablita was invited to Palm Springs where she gave a one woman show at the Desert Museum. Pablita exhibited her paintings at the Heard Museum in Phoenix in 1968 during the fall opening. 1968 also brought to Pablita a very special recognition when she was given the Waite Phillips Trophy, an elaborate silver cup set with a diamond, in honor of her outstanding contributions to Indian art in America.

Beginning with "Enchanted Sands" in 1964, Pablita has appeared in several television productions. In 1970 she was cast as Mary Bluefeather in "Little Bear Died Running" which starred Robert Culp. She has had small parts with Anthony Quinn in TV productions of "Flap" and "The City." These television series were filmed in Albuquerque and vicinity.

Pablita was commissioned in 1972 by the prestige magazine "Carte Blanche" to do a painting of the Christmas Story for the December issue. This inspirational painting, "The Visit of the Wise Men," is an Indian version and interpretation of the birth of Jesus.

Miss Velarde's paintings are in the permanent collections of the Gilcrease Foundation, Philbrook Art Center, Santa Fe Fine Arts Gallery, the Hall of Ethnology of the Santa Fe Museum, the De Young Museum in San Francisco, the Denver Museum, the Department of the Interior and in many private collections throughout the United States and abroad. Pablita's paintings are always on exhibit at Enchanted Mesa Indian Arts and Gallery in Albuquerque where for many years she has given one woman shows.

Leading a very active life with her painting, lecturing and writing, Pablita Velarde (Hardin) lives in Albuquerque where her children, Helen and Herbert and their families also reside. She is a member of the Piñon Branch of the National League of American Pen Women, the Gallup Inter-Tribal Indian Ceremonials Association, the New Mexico Council of American Indians and is mentioned in "Who's Who of New Mexico."

Pablita has been the subject of many magazine and newspaper articles, and a recent book about her has been published by the Dillon Press. Written by Albuquerque artist-author, Mary Carroll Nelson, "Pablita Velarde" is an interesting and captivating biography of Pablita's life.

Regarded as today's most outstanding Indian woman artist, Pablita's warm personality is reflected in her wide smile, keen wit and fine sense of humor. Despite many disappointments and years of hard work, she lives by the philosophy of "Old Father": "All things happen for the best—accept what you cannot alter and work at what you can." Pablita Velarde is most deserving of the fame and brilliant success that is hers.



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84408

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

December 10, 1975

Dr. Alfred Traverse
Department of Geosciences
Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Thanks for your recent letter. I am glad to hear that you will have room for me in your laboratory for a time while I am on sabbatical leave. The dates you have suggested will give ^{me} something to work the rest of my schedule around. I still haven't heard about the Australian proposal although I understand that I was given "high marks" by the reviewers. As soon as something jells I'll let you know.

In the meantime I am contemplating a short article on the floral transition in the lower part of the Upper Triassic sequence in the United States. At first I was just going to use plant megafossils to establish the transition but Bruce Cornet has written me about his findings on the pollen and spores and it seems the transition is also reflected in them. Therefore I have invited him to participate in the paper with me. You, of course, as his thesis advisor and because of your involvement in Triassic pollen and spores are invited to join us if you wish. I am sure the paper will benefit from your knowledge and experience. I haven't actually started to write the paper yet but I thought I'd alert you to my proposal. When I get something written down we can discuss more fully authorship, etc. If both of you are too busy I will limit myself to the megafossils.

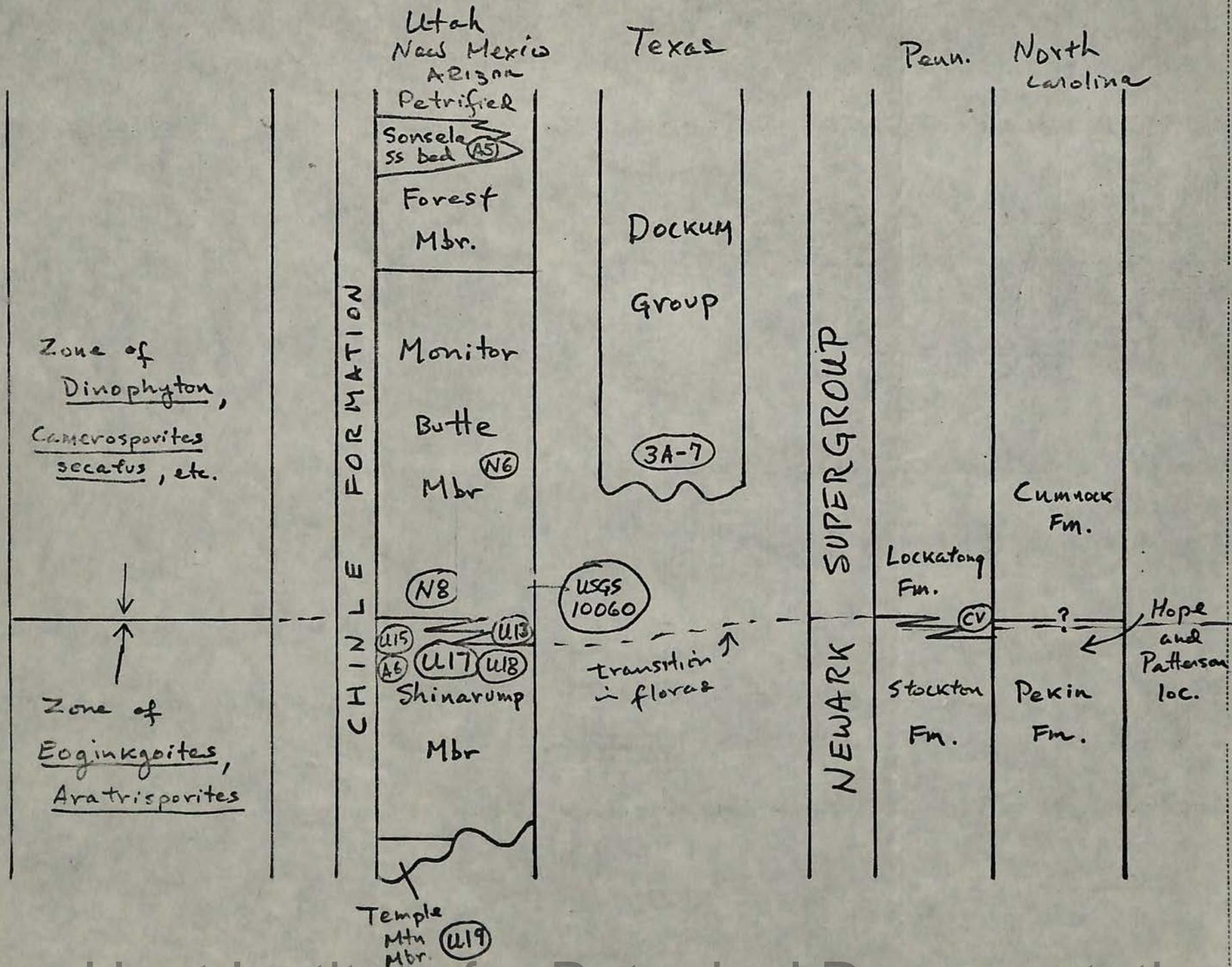
Merry Christmas!

Sincerely,

Sid

Sidney R. Ash
Professor of Geology

SRA/mh



BY DATE
 CHKD. BY DATE
 SUBJECT
 SHEET NO. OF

December 2, 1975

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thanks for yours of 12 November. The idea of having you around working on paleobotanical-palynological, etc., problems is most pleasant. I have discussed it with Bill Spackman, our professor of coal petrology and head of the Coal Research Section, and he also would enthusiastically endorse the project. We have, however, only one reservation. That is that we will be occupying a new building here sometime within the next academic year, most probably about January or February, 1977. Until the space provided by that building is available we are so crowded that none can imagine where you could find space to hang your hat. After the new building is available, that should prevent no particular difficulties. In other words, Spackman and I think that it would be much better to aim at the latest of the dates that you mentioned (1 March--30 August, 1977); in fact, even a little later would be safer yet. Glad to hear the news about Fred May. Actually, I saw him at the Houston AABP meeting a couple of weeks ago.

Best wishes to Shirley, who remains one of my real favorites!

Yours very truly,

Alfred Traverse
Professor of Palynology

AT:jb

THE PENNSYLVANIA STATE UNIVERSITY

DEIKE BUILDING

UNIVERSITY PARK, PENNSYLVANIA 16802

College of Earth and Mineral Sciences

Department of Geosciences
Palynological Laboratories

Area Code 814

865-6543

865-2342

November 21, 1975

file
Dr. Sidney R. Ash
Department of Geology and Geography
Weber State College
Ogden, Utah 84403

Dear Dr. Ash:

Since your last letter of 20 September, I have been very busy trying to gain control of my thesis research. Because of the enormous scope of the Newark palynological problem, I have had to limit my thesis to the upper half of the Newark Supergroup. My present work has been with the Rhaetian section and the dozens of palynoflorules in it.

During October and early November I was preparing a talk for the "Triassic" Conference at Wesleyan University, Middletown, Connecticut. The conference was held on 8-9 November, and dealt primarily with recent work on the Newark Supergroup. About 100 people attended the sessions; about thirty talks were given, ranging from paleontology (P. Olsen and myself), stratigraphy, and environmental interpretations to structure and geophysics. It was an experience I won't soon forget: Breaking the old traditions of calling the Newark - Newark Group, Triassic basins, Triassic rocks, etc. was no easy task. Because Paul and I gave our twenty minute talks first, there was little excuse for subsequent speakers to ignore the possible Jurassic age of rocks in their study areas. In fact, most speakers dealt with the Jurassic portion of the Newark Supergroup, or with igneous intrusives of Jurassic age. Paul and I had to stress several times that rock stratigraphic names should be used whenever the age was in doubt. I am afraid that some people there never did get the message.

The main purpose of this letter is to inform you on some new and significant observations about the seed cone of Pagiophyllum sp. 1 from the New Oxford Fm., but first I will report on progress with the samples you so kindly sent me.

I carefully processed samples A2, A5, N6, and N11. A5 and N6 were productive; A2 and N11 only yielded humic debris. A5 is fairly well preserved, and contains a typical Chinle palynoflorule identical with 3A-7. However, N6, which is much better preserved, is more similar to U17, lacking Genus A, but containing monosulcate #103 and common Triadispora as in U17. I would conclude that your Monitor Butte Member in the Fort Wingate area is older than the basal Dockum (3A-7) in Texas. Is N6 stratigraphically above N8??? As I recall, N8 also lacks Genus A, and appears

to be "intermediate" between U17 and 3A-7. Nevertheless, N6 appears to be more similar to U17 than does N8; perhaps we are dealing with an environmental problem.

I have been struck by the similarity of the seed cones of Pagiophyllum sp. 1 to Glyptolepis keuperiana, even though G. keuperiana has 5-7 narrow median lobes, while P. sp. 1 has ovuliferous scales with only 3-4 median lobes. The fact that two relatively large seeds could be attached laterally to the scales of Glyptolepis keuperiana (as illustrated by Kräusel, 1940, Palaeontographica, Abt. B, 84, p. 38, 7f) bothered me. I therefore closely reexamined one of my transfers of a cone with numerous seeds still attached (camera lucida drawing on next page). I was immediately struck by the lateral position of each seed relative to its scale. No seeds were observed in a median position. One scale appears to have two seeds attached, each being lateral in position.

Even though the seeds are in some cases larger than the scales which bore them, and in the illustrated cone some seeds are as large as their ovuliferous scales, the evidence now indicates that two seeds or ovules are borne on each scale as in Glyptolepis. However, I am using this genus in a restricted sense, excluding G. platysperma Mägdefrau, which appears to be quite distinct. Also, my Glyptolepis sp. 1 appears to be distinct from G. keuperiana in several ways - 3-4 median lobes per scale, winged seeds, and presumably also vegetative leaves and cuticle (no associated leafy shoots illustrated by Kräusel come even close to my specimens.). I would be interested in your comments.

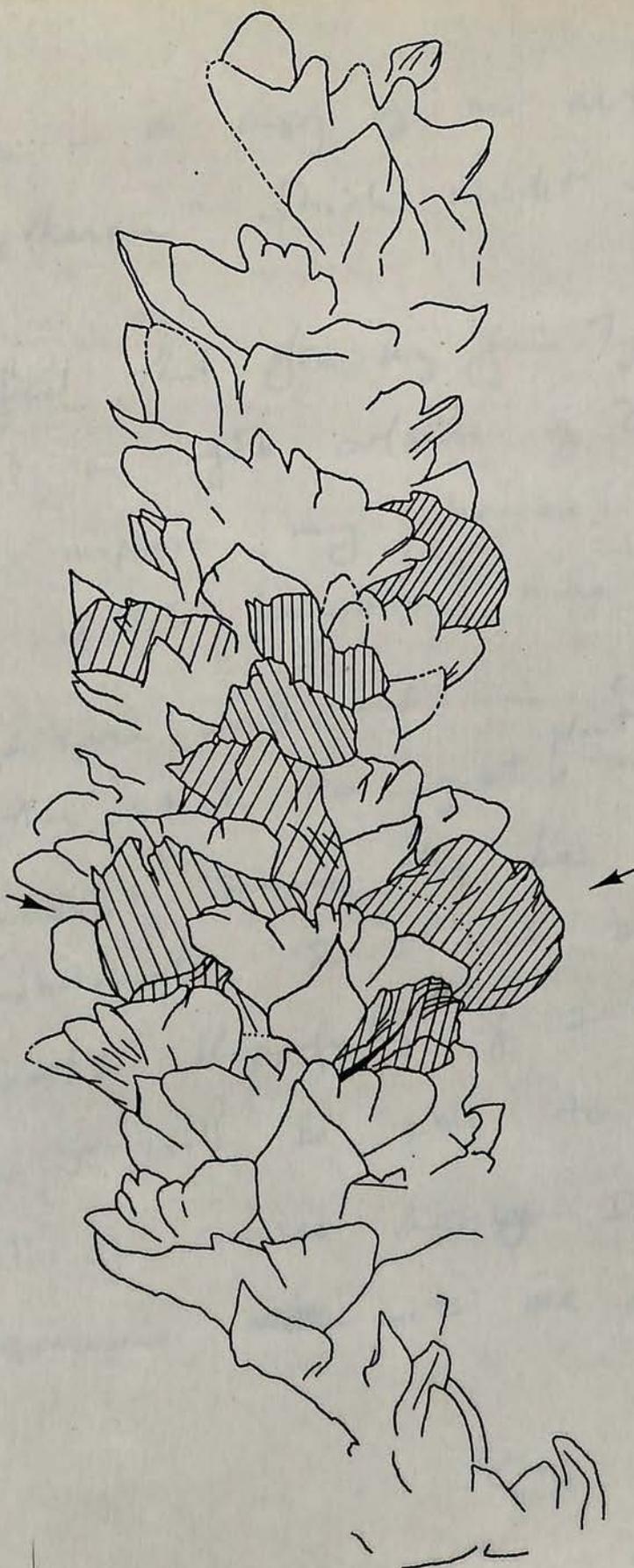
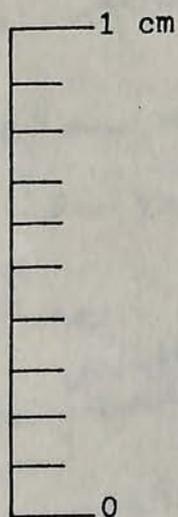
Do you have a plant locality near Madrid, New Mexico? While at the S.V.P. meeting at Harvard this month, I visited Barghorn. He showed me his collections of Chinle plant fossils, and he has some magnificent cycadophyte material from Madrid, N.M. But I do not have the exact locality for the material, which I was allowed to sample for palynomorphs. The plant locality is also an important vertebrate locality, but where? Might you have an idea?

Sincerely yours,

Bruce

W. Bruce Cornet, Jr.

P.S. At the Geobotany Conference at Bowling Green State Univ. on 21 February I would like to present a short paper on the seed cones of the possible Patinasporites densus producer. Because I invited you to join me on any publication concerning this plant, I would like to make this talk a joint venture, if you would trust me to do a responsible job. I am open to suggestion. The deadline for papers is 1 January.



11/12/55

Al -

Here is a copy of an article from "The Lutheran" which might interest you.

I feel that for my family's sake that I must get a job outside of Utah. I think it will improve my chances to get such a job if I become more proficient in

pollen and spore work and in coal petrology. I'd rather stick to just ^{plant} megafossils but

there doesn't seem to be much demand for ^{straight} paleobotanists. So I had better broaden my interests. Hopefully if I can work

with you I will be able to go elsewhere. I will of course deny I ever said

this if someone ~~else~~ puts me on the spot.

Sig

Al



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

12
November 7, 1975

Dr. Alfred Traverse
College of Earth and Mineral Sciences
Pennsylvania State University
University Park, Pennsylvania

Dear Al:

As I may have mentioned to you I am eligible to go on sabbatical leave next year. I have applied for a grant from the U.S-Australia Science Program to work on the Lower and Middle Triassic bennettitaleans of Australia during that time. At this point I do not know if I will receive the grant or not. In any case, even if I do receive the grant I would like to receive some specialized training and experience in both palynology and coal petrology during my sabbatical. Thus I am writing to ask if it would be possible for me to work in your laboratory for six months or so on both topics. I hope that I can do this work without having to pay any fees as I will be receiving only 60% of my salary. (We can hardly live on my salary as it is so I don't know what we'll do when it drops to 60%!)
Generally,
Joseph L. Bishop

As to a possible project I would suggest that I work on some of the Chinle miospores and coal. The so called coal in the Chinle may not be true coal so it may be that I'd need to work on some other one. Perhaps if we can get a joint research project going on the floral zonation of the Upper Triassic I could work on it in your laboratory for a time.

At present the exact timing for the work in your laboratory is somewhat nebulous. As soon as I get some firm information on my Australian project I will be able to propose a definite schedule. Also the schedule may be affected if we receive grants for a joint project on floral zonation. A possible schedule would be for me to work in your laboratory from August 1 to December 15, 1976. A second alternative would be to work there from about March 1 to August 30, 1977.

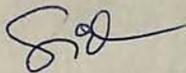
Traverse

Dr. Alfred Traverse
November 7, 1975 - Page 2

Tentatively I am planning on submitting my proposal for the joint project to NSF in the spring for funding on Jan. 1, 1977. I believe that date coincides with the expiration date of your present grant.

Fred May stopped by the other day and we had a nice visit. It sounds as if he has a good position with the USGS.

Sincerely,



Sidney R. Ash
Professor of Geology

SRA/mh

P.S. Am enclosing 2 copies of my latest effort (one copy for Bruce).
Tell Bruce I'll try and write him in a week or so.



WEBER STATE COLLEGE

1400 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH J. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

June 16, 1975

August 25, 1975

File Ash

Mr. Bruce Cornet
252 Roman Avenue
Dr. Sidney R. Ash
State College, Pennsylvania 16801
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid: Thank you for your recent card and the information about the correlation of the Newark Group.

Thanks for the most welcome megafossil reprints! I take it that your correlations seem reasonable as far as they go, but do you have any data on from the base of the Newark? I may get the extra pair are for Cornet and will turn them over to him. I may get that the Chinle of eastern New Mexico probably is equivalent to only the uppermost part of the Newark. I do over to recognize *Pagiophyllum* when I see it if I am not careful!

It was great to see you in St. Petersburg--and to have dinner with you and your delightful Shirley. I have a fine photo of you and F. Ting

with the Winter Palace behind--quite a different backdrop from my other As would be interested in learning how the pollen and spores in them fit into your correlations and if they support my contentions.

When will we talk more about your idea of cooperative attack? I intend to discuss it at NSF later this week. In the project we would use both the Newark and the Chinle. If he is interested in such a cooperative project I may stop by his office on our way back to the Newark.

Best to Shirley--and also to you. At that time we could discuss the project in detail and perhaps start writing up the proposal.

Yours very truly,

The reprints you requested are being sent along separately. I have hesitated sending them out because of the printing errors they contain. Ugh! Please overlook the errors.

Alfred Traverse
Professor of Palynology

AT:jb

Sidney R. Ash
Sidney R. Ash
Associate Professor of Geology

SRA/ml



WEBER STATE COLLEGE 3750 HARRISON BLVD., OGDEN, UTAH 84408

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

June 16, 1975

Mr. Bruce Cornet
252 Homan Avenue
State College, Pennsylvania 16801

Sidney R. Ash

Dear Bruce:

Thank you for your recent card and the information about the correlation of the Newark Group.

Your correlations seem reasonable as far as they go, but do you have any data on from the base of the Chinle of Utah and Arizona? Are you aware that the Chinle of eastern New Mexico probably is equivalent to only the uppermost part of the classic Chinle of Arizona? If I had it to do over again I think I would show in my correlation chart that the lower part of the Chinle in Utah and Arizona was older than the basal Upper Triassic strata in Texas. Some new and admittedly incomplete data based on plant megafossils suggest these changes.

A couple of samples of basal Chinle from Utah and Arizona are enclosed. I would be interested in learning how the pollen and spores in them fit into your correlations and if they support my contentions.

I have suggested to Dr. Traverse that we begin a systematic study of the floral succession in the Upper Triassic series. In the project we would use both plant megafossils and microfossils from the Newark and the Chinle. If he is interested in such a cooperative project I may stop by his office on our way back from Russia on July 23 or 24. At that time we could discuss the project in detail and perhaps start writing up the proposal.

The reprints you requested are being sent along separately. I have hesitated sending them out because of the printing errors they contain. Ugh! Please overlook the errors.

Sincerely,

Sidney R. Ash ← *File*
Sidney R. Ash
Associate Professor of Geology

SRA/mh



WEBER STATE COLLEGE 3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

June 11, 1975

Dr. Alfred Traverse
Department of Geosciences
Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

I tried to phone you the other day but I was told you would be out of town until the middle of this month.

I wanted to talk to you about the possibilities of you joining me in a joint project tentatively entitled "Floral Succession of the Upper Triassic." I'd work on the leaves and you and your students would work on the pollen and spores. As I visualize the project it would emphasize the fossils found in the Chinle and be supplemented by the work you have done on the Newark and Dockum microfloras. Perhaps it also could include work on the Newark megafossils.

If you are interested I could arrange to visit with you after the Leningrad Congress, say on July 23 or 24. However, I am traveling on a Bicentennial excursion fare rate to and from New York City which allows one extra stop. The tickets will be written on the 25th so I need to know by then if you would like to discuss the possibilities of such a project.

I am sending two copies of some recent publications of mine. The extra copies are for Bruce Cornet. Thanks for the reprints you sent me in December.

The printer's devil sure messed up the type on my Paleontographica paper after I saw the page proofs. I'm not sure if I'll publish anything more in that journal!

Best wishes.

Sincerely,

Sidney R. Ash
Associate Professor of Geology

SRA/mh

Sid Ash

12/22/74

Dear Al

Thankx very much for your Christmas card. It certainly is attractive. You must of gone to a lot of work to make it. Although this won't get to you until after Christmas I thought you might enjoy seeing an Indian version of Christmas eve. Pablitz is Pueblo but the scene is clearly Navajo.

You our two little half-breeders are growing up. Kathleen is in kindergarten and seems to be enjoying it. She is quite an artist and is always drawing or coloring or trying to make something with paste and scissors. Randy is just beginning to talk. He has started to make simple sentences already so I suppose it is only a matter of time until he will be talking up a storm.

I was sorry that you couldn't make the ALBS meetings in June. We had a successful ^(paleobotanists) field trip - no one got lost or sick anyway - and afterward we heard a lot of fine papers. After the meetings Prof. Harris came up to Ogden with me. We had a nice visit and I once again picked his brain for several hours. He is certainly a stimulating person to be around.

I am working on another odd fossil from

the Chile. It apparently is the same as the leaf that Bock called Eoginkgo. But it isn't a ginkgo - it's a Bennettite! It has perfectly good Bennettitalean stromata so there is no doubt of its relationships.

How is your work on the Jurassic portion of the Newark Group coming? Hope you haven't found any Eoginkgoites in it. By the way if you can spare a reprint of your "Science" paper on the Jurassic Newark I'd appreciate having it.

Shirley and I are planning on going to the Intern. Bot. Congress in July. We can't afford it but nevertheless we are going. I got a \$300⁰⁰ ^{travel} grant from NSF via Bot. Soc. Amer. It won't pay my way even but it is a bit of help. Will you be going?

Did Fred May ever determine where the Mississippian locality was that we looked for a year ago? He has been through here a couple of times but I've missed him. I still think the locality is in northern Utah near the Uintah Mts. Will try to get there next summer if possible.

"Nativity with Shepherd"

Best wishes

Sid, Shirley, Kathy-Ella
and Randy

4/16/74

Dear Al

Thank you for your recent letter

April 30, 1974

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thanks for yours of 16 April. You're right--it was very discouraging to find nothing at all in the samples from Soldier Canyon. It makes the origin of Fred's samples an additional mystery. I suppose, since the lack of spores is almost certainly a question of metamorphism, you're quite right that none of the samples in that canyon are going to be any good, and we should look elsewhere. But there are so many other things to do that I suppose it will be a while.

Now for some disappointing news--it looks as if I will not be able to attend the Tempe meetings. This is a disappointing thing because I would have liked to ^{have} seen you again and to have taken part in the field trip. However, I couldn't really justify it in terms of the tight travel budgets now in vogue here because I really have been to all the localities which are going to be visited, albeit ~~and~~ less illustrative company!

I still retain a very warm glow about my visit to Utah and your and Shirley's friendship for me. I hope that there will be plenty of opportunity for get-togethers in the future.

Yours very truly,

Al

Alfred Traverse
Professor of Palynology

AT/vsi

4/16/74

Dear Al

Thank you for your recent letter.

I was sorry to learn from your letter that you didn't find any pollen + spores in the samples we collected in Soldier Canyon. I'll bet the sample Fred May gave you came from the north side of the Uintah's. Perhaps we could try that area sometime.

I appreciate you telling me about the job at the field museum but I think I'll pass it up without applying.

Will you be coming through here on the way to the Tempe meetings? Right now I'm trying to put together a guidebook for the paleobotany field trip. Hope it won't have as many errors in it as Kremps did!!

Best regards

Sid

Ash

P.S. Please excuse my scrawl. It would take several days to get this typed so in order to save time I thought I'd write it by hand.

March 27, 1974

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Well, our friend at BYU must have known more than he was letting on! The samples which we risked life and limb to collect in Soldier Canyon have all proven to be barren. The problem seems to be two fold--in the first place they're extremely rich in carbonate, which is always bad news. In the second place, there seems to be some evidence of metamorphism. A couple of those samples I would have bet considerable sums on ~~their~~ being good bets for palynology. So, we are still left with the mystery of where in the blazes Fred May's wonderful sample came from. We did have a nice day together in the field, though, and I guess we shouldn't feel too bad.

Did you know that the position of head curator of paleontology at the Field Museum in Chicago is open? If you're interested, you might write to the Search Committee, Department of Paleontology, Field Museum, Chicago, Illinois, 60605, and it would be all right to mention my name. I can't imagine why you'd want to live in Chicago, but the job is an excellent one.

Best wishes to Shirley.

Yours very truly,

Alfred Traverser
Professor of Palynology

AT/vsi

Esteeck

Fidelity Onion Skin

January 29, 1974

Dr. Sidney R. Ash
Dept. of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thanks for yours of 8 January, which it has taken me entirely too long to answer. In truth, however, it didn't actually arrive here until the 15th. It is interesting to hear about your continuing interest in the organic material in the Chinle Formation. I am indeed interested in collaboration with you on this project and would very much like to be involved. As you say, it sounds to me as if a tad of palynology as well as coal petrology is involved. I am not really a coal petrologist, but I have experience in the field (once was so employed by the Bureau of Mines!), and Penn State is one of the top coal petrological places, so I could get lots of advice.

It's interesting to hear about the further progress of your plans at the University of Utah. I'm not sure I quite understand why you think you would be better off there than at Weber State, but we didn't discuss the matter very much and there probably are things that I don't know about.

Best wishes to Shirley.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

P.S. Regarding the AIBS meetings in June in Arizona, I would dearly love to go, and it seems to me almost essential from the point of view of my professional interests in the Triassic that I do so. At this point I am unable to see where the cash might come from, but I still am at least tentatively planning to be there. It comes at an awkward time this year. My older son graduates from Harvard, my younger son from high school, and my wife has her 25th college reunion. In addition, the Episcopal diocese is slating its annual convention, which I am supposed to attend if at all possible, during the first part of June, so I might be pretty much occupied during that month. Nevertheless, I am going to try to make it.

844 Boughton
Ogden, Utah 84403
Jan. 28, 1974

Dr. Alfred Traverse
College of Earth and Mineral Sciences
Pennsylvania State University
University Park, PA 16802

Dear Al:

A position in paleontology has just opened at the University of New Mexico. I have applied for the job and would appreciate it if you could send a letter supporting my application to:

Dr. Lee A. Woodward
Department of Geology
University of New Mexico 87131

Albuquerque, N.M. ←

I hate to bother you with this request as I know you are very busy. However, I feel that a letter from you, especially if it mentions my research, will be helpful to me.

Sincerely,

*Hope all is well
with you
Sid*



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

January 8, 1974

Dr. Alfred Traverse
Department of Geosciences
The Pennsylvania State University
University Park, PA 16802

Dear Al:

Thanks very much for the packet of reprints which just arrived the other day. From the looks of them, you have been rather busy the last couple of years. I showed the paper you and Fred May wrote to some of the people around here, and they were quite interested in it. I hope Fred will send a copy to Dr. Moyle who was interested in Fred and his work.

For sometime now, I have been thinking of writing a paper on the "coals" in the Chinle Formation and their paleoecological implications. One thing that has prevented me from doing so is my limited knowledge of coal petrology. The paper you wrote with Warg suggested to me that you might be interested in working with me on such a project. If you should be interested, I can do the field work in the spring - providing there is enough gasoline available! As I originally conceived of the project, I thought that the report would only concern - the petrology of the "coals," the geology of the localities and then a bit on the paleoecological implications. If you were interested and it is practical, perhaps the palynology could be considered also. If you come this way when you go to the AIBS meetings in June, perhaps we could talk about the project; and if there is time, we could also visit the localities.

Working with you on this project will give me an opportunity to gain some experience in coal petrology - a subject I know little about. I have always had some interest in coal; and as the U. S. turns more and more to coal as a source of energy, I think such knowledge will be quite beneficial. I have a few friends who are coal consultants, and they are really busy these days. Probably the demand for people who know about coal will increase; and if I learn enough, perhaps it would be worth giving a course on coal geology at Weber State sometime.

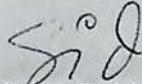
I have several projects in progress, so I won't have much time to put in on the Chinle coal until summer. Also it is too cold now, and I'm too busy with teaching to do any field work anyway.

Dr. Alfred Traverse
January 8, 1974
Page 2

By the way, thanks a lot for sending a letter of support for my application for an exchange visit to Russia. I haven't heard anything about the results of my application yet.

Shirley and the kids join me in wishing you a Happy New Year.

Sincerely,



Sidney R. Ash
Associate Professor of Geology

jb

P.S. I am going down to the Univ of Utah
in a couple of days for a formal job interview.
They hope to make a decision about me in
a couple of weeks. Keep your fingers crossed
for me as I really hope to land a job
there.



December 14, 1973

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thanks for yours of 7 December with the xerox copy of the list of samples. I believe the mistake was mine, and that I simply had not checked the previous letter thoroughly enough before writing. The original letter is now in the process of being filed, and I can't even get at it to look at it! In any case, everything is all set now.

Thanks again. Best wishes to you and Shirley as always.

Alfred
Yours very truly,

Alfred Traverse
Professor of Geology & Biology

Fidelity Onion Skin
AT/vsi
100% COTTON

December 3, 1973

Dr. Sidney R. Ash
Dept. of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

The second box arrived, and what a magnificent job of packing! I suppose there will be in due course another letter from you giving the localities represented by the numbered samples. I also suppose that there is ~~the~~ piece of Clathropteris in a separate box somewhere--or is one of the numbered samples the piece of Clathropteris. I am not going to open the numbered packets until I get the locality list for fear of getting things messed up.

Thanks once again for all of your help and the good time I had in Ogden. Looking forward to hearing from you and with very best wishes to you and Shirley, I am

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

November 13, 1973

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

Dr. Alfred Traverse
College of Earth and Mineral Sciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

I've finally got around to sorting out some samples for pollen analysis and have included them in your second box which was sent off yesterday by parcel post. I hope it arrives in good condition and before much time passes. Sorry I've been so slow in sending the package but I've been bogged down almost completely with my teaching.

The attached list gives the pertinent locality data for each of the samples I've included in the package. If you need more detailed information about any locality please let me know.

or a larger sample

Hope the first package which I mailed sometime ago has arrived by now.

Sincerely,

Sidney R. Ash
Associate Professor of Geology

SRA:nh

Enclosure

Sample
Number

Locality Data

run by
L. Foster Fall '81

- 11 "Cuticle Shale" from Petrified Forest National Park Arizona at my locality PF10 which is also USGS loc. 10090. Lower part of Petrified Forest Member of the Chinle Formation.
- 12 Gray Shale in the upper part of the Monitor Butte Mbr. of the Chinle Formation at my locality FW4 south of Fort Wingate, N.M. USGS loc. 10061.
- * 13 Shinarump Mbr. of the Chinle Fm. at a uranium prospect a few thousand feet north west of the Lamp Stand in the Circle Cliffs, southern Utah. My locality CL1.
- 14 Shinarump Mbr. of the Chinle Fm. at a uranium prospect a few miles west of the Blue Bird prospect in the Circle Cliffs, southern Utah. My locality CL2.
- 15 Shinarump Mbr. of the Chinle Fm. at a uranium prospect on the south side of Capitol Wash in Capitol Reef National Park, Utah. My locality CRL. This is the locality from which Scott obtained the grains he called Ephedra in 1960.
- 16 Carbonaceous shale in the mudstone - sandstone unit of the Chinle Fm. near the Four Aces mine in the White Canyon area, southern Utah. My loc. WC1.
- 17 Lower part of the Monitor Butte Mbr. of the Chinle Fm. at the mouth of Canyon de Chelly, Arizona. My loc. CD1 and USGS loc. 10093. See my 1972 paper on Dechellyia, etc. for additional data.
- 18 Dockum Group in a gully on the east side of the highway in the SE NW NE, Sec. 22, T. 15 N., R. 32 E., in northeastern New Mexico.
- * 19 Lower part of the Monitor Butte Mbr. of the Chinle in the NW SE SW of Sec. 13, T. 13 N., R. 14W. in western New Mexico. My locality AZ2. (*Fructifications bearing "Pityo sporites" - note as duplicate splo.*)
- 20 Lower part of the Chinle Fm. in Dinnebito Wash about 10 miles northeast of Grand Falls of the Little Colorado River. My locality DW1.
- 21. A specimen of Clathropteris walkeri from the lower part of the Petrified Forest Member of the Chinle Fm. in Petrified Forest National Park, Arizona. My locality PF1 and Daugherty's P3901-1. Also USGS loc. 10062. Sorry I do not have a fertile leaf to send along.

* duplicate splo. rec'd 26-IV-76 ("various lithologies")

rec'd 26-IV-76 {

- 22. "My locality ST-1"
- 23 "My locality CR-3"
- 24 "My locality CR-6"
- 25 "My locality ER-1"

Esteban
November 12, 1973

Fidelity Onion Skin
Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Your letter of 5 November was most welcome and arrived in unbelievably short order--dated the 5th, it got here the 6th! Or maybe your secretary pre-dates letters. I must say that's a temptation.

I had intended to write a letter to you, thanking you for all of your help and asking to be remembered to the various people in the department likewise. Also, I would much appreciate your telling Shirley how much I enjoyed being with you for dinner those two nights, though I feel bad that I did not seem to have time ever to do some sort of a good deed in return. Maybe next time.

The day in the field was a lot of fun, but I won't know how successful it was until I get the samples and have time to run them--God knows when that will be because I just had a phone call from the Smithsonian putting pressure on me to complete the generic list of fossil spore names on which I have allegedly been working for some time. Godd to hear that my boxes went out last week and the other will come in a few days. I had meant to suggest United Parcel Service, which is how we sent them, but I can't remember whether I did. It would have had the advantage that you could send them collect. The news about Alan Gottesfeld is interesting and does seem to indicate that he is still in (back in?) palynology. I am sure that Kremp told me that he had had some sort of a psychiatric problem, but I can't remember when it was supposed to have occurred. In any case, Kremp gave me the impression that Gottesfeld would most likely not be in palynology anymore. I am glad to hear he is back in circulation and only hope that he is also in better mental health.

Dr. Sidney R. Ash

-2-

November 12, 1973

I will of course take care of the form for you and hope that you get what you are trying to win. I expect the competition is pretty stiff and that you shouldn't feel too put upon if you don't succeed in getting the award. If all of your recommendations have the tone that mine has, you should have no trouble.

Best wishes and thanks again and especially regards to Shirley.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi



WEBER STATE COLLEGE 3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

November 5, 1973

Dr. Alfred Traverse
College of Earth and Mineral Sciences
Pennsylvania State University
University Park, PA 16802

Dear Al:

I presume you arrived home safely sometime ago as I didn't hear of any plane crashes after your visit. It was certainly enjoyable having you over here, and I hope you will be able to return soon.

As I mentioned when you were in Ogden, I am applying for participation in the exchange program of the U.S. and Russian Academies of Sciences. At that time you agreed to fill out a reference form for me, and one of them is enclosed. I'd appreciate it if you could complete it and send it to the National Academy of Sciences fairly soon. (The deadline for receipt of application and reference forms for this program is November 21.) A copy of the application is also enclosed for your information; it need not be sent to the National Academy or returned to me when you have completed the reference form - *just throw it away!*

One of your boxes was sent last week, and the other will go out in a few days - as soon as I can get some samples sorted out and packed in the box.

Thanks for your help with the enclosed form.

Sincerely,

Sidney R. Ash
Associate Professor of Geology

jb
Enclosure

P.S. I just received a note from Alan Gottesfeld and he tells me that he hopes to finish his PhD dissertation on the Upper Triassic microfossils in about 6 months. If he does he'll sure be busy those 6 months won't he!

October 10, 1973

Dr. Sidney R. Ash
Dept. of Geology & Geography
Weber State College
3750 Harrison Blvd.
Ogden, Utah 84403

Dear Sid:

With reference to yours of 1 October, this is to let you know that I will arrive in Salt Lake City on Western airlines flight 24, Sunday, 21 October, unless you hear to the contrary. According to my information the time is 5:41 p.m.. However, I suppose as between the two pieces of data, the flight number is the more reliable!

As I told you in an earlier letter, I have sent off my field clothes and some equipment to you and I am hoping that the box will arrive in Ogden before I do! It also includes my slides for the two talks.

I have no idea what if any publicity you intend to give my visit, so I am sending you "the works" in the way of biographic information, and you can select what you want, or nothing at all.

Looking forward to seeing you. I am

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi
Enclosure: biographic information



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

October 1, 1973

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

Dr. Alfred Traverse
College of Earth and Mineral Sciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al

Thanks for your recent letter giving me your tentative schedule.

I will meet the 5:41 p.m. plane from San Francisco at the Salt Lake Airport on October 21 unless I should hear that you are on a different plane. We can have dinner together that night as you suggest and the next day we can go in the field to collect the Manning Canyon section. On the following day (October 23) we have scheduled you to speak to our Geology Club at 2 p.m. and to my class and other interested parties at the University of Utah at 7:30 p.m. Perhaps you would prefer to stay in a Salt Lake motel that night rather than returning to Ogden. That way you won't have to get up so early on the 24th to get your 8:10 a.m. return flight.

I am glad that we will finally have a chance to meet and I am sure your visit will be mutually enjoyable.

Sincerely,

Sidney R. Ash
Department of Geology and Geography

SRA:nh

P.S. I'll meet whatever plane you are on if you'll let me know when to expect you. There is no need to rent a car. We can take care of your transportation unless you'd prefer to go the rental route.



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

801-399-5941
X260
801-392-3780

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

September 18, 1973

Dr. Alfred Traverse
Department of Geoscience
The Pennsylvania State University
University Park, PA 16802

Dear Al:

Please disregard just about everything I said in my previous letter about your schedule. I have just discovered that the 22nd is a holiday, Veteran's Day, so there won't be any students around to hear you speak. Could you stay over an additional day and speak on the 23rd, or could you come the previous weekend and then speak on the 15th? I am anxious to have you speak to our Geology Club, because I am in charge of it this year and I have to line up the speakers for it!

In any case, I will be happy to go out in the field with you whenever you turn up out here. Sorry I wasn't more sure of our schedule in my previous letter.

Sincerely yours,

Sidney R. Ash
Associate Professor of Geology

jb



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

September 13, 1973

Dr. Alfred Traverse
Department of Geoscience
The Pennsylvania State University
University Park, PA 16802

Dear Al:

Thank you for your letter of September 4. It took over a week to get here, so I'll dash off a quick reply or you'll think I'm ignoring you.

*Cole
Fred
rdwy*

The schedule you propose sounds good except that it may be difficult and dangerous to collect from the Manning Canyon locality on the 21st. According to the maps of the area, the locality is at an altitude of about 10,000 feet. At that altitude at that time of the year, there is a strong possibility that there will be snow on the ground, if not in the air. To further complicate matters, that date is in the early part of the deer hunting season. Each year several people are killed by deer hunters here in Utah. Thus one takes a chance when he goes out into the field. I'm perfectly willing to go with you, but I just thought you should know the situation.

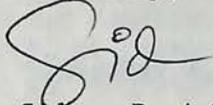
Bill Tidwell at the Brigham Young University in Provo has been doing a lot of work on the plant megafossils in the Manning Canyon Formation. I'm not sure if you know of his work, but he has published a couple of papers on it and has another in the mill. I believe he told me that he had material from the area you are interested in. If you have time, perhaps you'd like to meet him and see his laboratory. There is a regular hot-bed of paleobotany developing around him at B.Y.U.!

That will be great if you can give a talk to our geology club on Monday afternoon, October 22. We have both 35 mm and overhead projectors available. The subject of your talk sounds very interesting, and I'm sure there will be good attendance (30-40 people) at the meeting. Possibly I can get the paleobotany class to meet on Tuesday afternoon or Monday night to hear the other talk. I won't know about this, however, for a couple of weeks as classes don't start until the 26th. I'll let you know what they decide as soon as possible.

Dr. Alfred Traverse
September 13, 1973
Page 2

Glad we'll get to meet finally after all these years.

Sincerely,



Sidney R. Ash
Associate Professor of Geology

jb



Dr. Sidney R. Ash

-2-

September 4, 1973

just the 35mm. For the paleobotany class, if it were possible to get them together at sometime other than Wednesday (I'm not counting on it), I could talk on something like "fossil pollen and spores and plant evolution". Well, this gives you quite a bit to respond to. Would you be able to spend sometime with me on the afternoon of the 20th, perhaps looking at your fossils, etc., could you go in the field on the 21st? Is the 22nd all right for the geology club? Is my title okay? Any chance of the University of Utah group getting together one of those evenings?

September 4, 1973

Looking forward to seeing you in October and with best wishes,

I am
Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
3750 Harrison Blvd.
Ogden, Utah 84403

Alfred Traverse
Professor of Geology & Biology

Dear Sid:

Thank you for yours of 28 August. The time is getting frighteningly short. On more careful perusal of the calendar in comparison with the AASP program schedule, it is obvious to me that I will have to visit you in Utah on the way back from the meeting rather than on the way out. The reason is that the first session is on Tuesday, 16 October, and I will have to use the 15th in travel to Anaheim. The last part of the program in which I am interested finishes on Friday the 19th and I could go then to Ogden on the 20th. If you were available for such behavior, I would very much like to attempt to visit and collect at a locality in Summit County (near a place called Hole-in-the-Rock). It is a Mississippian locality, and I am interested in it as a very likely section for at least a good Master's thesis for one of the students. The spore flora from one of the layers is just sensational. Anyway, I would plan to visit that spot on Sunday, hopefully with your company. I could rent a car to keep the impact on your research budget to nil. Then I would be available on Monday for whatever you like, including a talk to the geology club. However, I don't see how I could hang around until Thursday which is what would be entailed if I were also to talk at the University of Utah. If the group could be persuaded to get together on one of the evenings, the 22nd or even the 23rd, I would certainly be happy to oblige. In any case, however the timing works out, I would think that a suitable topic for the geological club would be practical applications of the study of fossil spores and pollen. If possible, I would like both a 35mm and an overhead projector available. In a pinch, I could get away with



Dr. Sidney R. Ash

-2-

September 4, 1973

just the 35mm. For the paleobotany class, if it were possible to get them together at sometime other than Wednesday (I'm not counting on it), I could talk on something like "fossil pollen and spores and plant evolution". Well, this gives you quite a bit to respond to. Would you be able to spend sometime with me on the afternoon of the 20th, perhaps looking at your fossils, etc., could you go in the field on the 21st? Is the 22nd all right for the geology club? Is my title okay? Any chance of the University of Utah group getting together one of those evenings?

Looking forward to seeing you in October and with best wishes,
I am

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

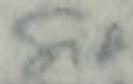
AT/vsi

Enclosure: letter

P.S. I enclose a copy of letter from Dr. Doelling, explaining more about the Mississippian locality. If you're agreeable to scheme, perhaps you could arm us with maps, etc.?

By the way, I will be teaching a course in paleobotany at the University of Utah this fall. The class will be held on Wednesdays. If you will be here on a Wednesday do you suppose you could attend? The class will be composed of both upper-level and graduate students so that talk could be more technical than the one being given by the club.

Sincerely,


Sidney R. Ash
Associate Professor
of Botany

SRA/ba



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

August 28, 1973

Dr. Alfred Traverse
College of Earth and Mineral Sciences
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Thanks for your recent letter. I'm glad that my reprints arrived safely and that you found them of interest.

Yes I am looking forward to your visit and I've been thinking of writing you about it. Of course I don't know your schedule at this time but I hope it will allow you time to give a talk before our geology club. That meeting can be held at just about any time to fit your plans. We don't have any graduate programs here and most of the students who would attend your talk are just starting out in geology. Thus I suggest that it be of a rather general nature. Perhaps something on the application of palynology to stratigraphic problems or something on coal and coal geology. If the talk was illustrated I think it would be of more interest to our students.

By the way, I will be teaching a course in paleobotany at the University of Utah this fall. The class will be held on Wednesday afternoons. If you will be here on a Wednesday do you suppose you could talk to my class also? The class will be composed of both upperclassman and graduate students so that talk could be more technical than the one before our geology club.

Sincerely,

Sidney R. Ash
Associate Professor
of Geology

SRA/bs

August 16, 1973

March 12, 1973

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403
5750 Harrison Blvd.
Dear Sid: en 84403

Dear Did I ever thank you for the reprints of the various megafossil Triassic papers which you sent me sometime ago? I am glad to have them, both for possible future reference and because they just make interesting reading. A

Are you still looking forward to having me with you in October? I suppose some additional correspondence about that is at this point not entirely out of line.

Hoping that you have had a good summer and with best wishes, I am

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi

March 12, 1973

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
3750 Harrison Blvd.
Ogden, Utah 84403

Dear Sid:

Thank you for your letters of 16 and 19 February. As far as I can tell they are identical, and I guess "nh" must have boo-bood by typing your Dictaphone belt twice! I agree with you that Dunay's thesis should be published as soon as possible, and I hope that encouragement such as yours will prompt him to do so.

I will be glad to present a talk to the "geology club" while at WSC. We can flange up the exact date and subject later, I suppose. At this time I only know roughly when I will be in Ogden--sometime just before AASP meeting in October. I could talk about either Triassic palynology of N. America or about Black Sea recent sediments--the latter would be easier, the former being an enormous subject!

I also plan to spend a day or two in the field in Utah. More about all this later. Best wishes.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi

3. Married status: MARRIED, if married and you plan to be accompanied by your spouse, please give name, date and place of birth and citizenship of spouse.

Name: Shirley Patricia Arviso

Date and place of birth: Feb. 22, 1935, Rehoboth, New Mexico, U.S.A.

Name: NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL

Name: Office of the Foreign Secretary, Albuquerque, New Mexico
2101 Constitution Avenue
Washington, D.C. 20418

Application for Participation in Academic Year 1974-75 in the Exchange Program of the National Academy of Sciences and

(check appropriate box or boxes, indicating order of preference if more than one is checked)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Academy of Sciences of the USSR | <input type="checkbox"/> Hungarian Academy of Sciences |
| <input type="checkbox"/> Bulgarian Academy of Sciences | <input type="checkbox"/> Polish Academy of Sciences |
| <input type="checkbox"/> Czechoslovak Academy of Sciences | <input type="checkbox"/> Academy of Romania |
| <input type="checkbox"/> Council of the Academies of Yugoslavia | |

(Use reverse of sheets for additional information if necessary.)

1. Name in full: Sidney Roy Ash

2. Home address: 844 Boughton

Ogden, Utah Zip Code: 84403 Area code and telephone no. (801) 392-3780

3. Office address: Dept. of Geology and Geography, Weber State College

Ogden, Utah Zip Code: 84403 Area code and telephone no. (801) 390-5941

(Please check preferred mailing address.)

4. Age 45 years; date and place of birth: November 25, 1928 Albuquerque, New Mexico

5. Citizenship: United States of America

If naturalized, give date of naturalization: _____

Previous citizenship: _____

Have you any relations in East Europe or in the USSR? No If so list on reverse.

6. Marital status: Married. If married and you plan to be accompanied by your spouse, please give name, date and place of birth and citizenship of spouse.

Spouse: (maiden name if female) Shirley Martha Arviso

Date and place of birth, citizenship Feb. 22, 1935 Rehoboth, New Mexico, U.S.A.

Names, ages, date and place of birth of any children who might accompany you:

Kathleen Ellen Ash, 4, Aug. 7, 1969, Albuquerque, New Mexico

Randolph Henry Ash, 1, Aug. 9, 1972, Ogden, Utah

7. If you have ever been arrested for other than a minor motor vehicle violation, please describe on the reverse.

8. Have you or your dependents who might accompany you any problems of health? No.

If you or accompanying dependents have received psychiatric or major medical treatment within the past three years, please describe on the reverse.

9. Organization or academic institution with which you are now affiliated and initial date of affiliation:

Weber State College, Ogden, Utah Sept. 1, 1970

Position or title: Associate Professor of Geology

Field of specialization and specific scientific interests: Paleobotany-Plant megafossils of the lower mesozoic, especially the Triassic and plant evolution in general.

10. Degree held	awarding university	year awarded	field
<u>PhD</u>	<u>Univ. of Reading</u>	<u>1966</u>	<u>Paleobotany</u>
<u>MS</u>	<u>Univ. of New Mexico</u>	<u>1961</u>	<u>Geology</u>
<u>BA</u>	<u>Univ. of New Mexico</u>	<u>1959</u>	<u>Geology</u>
<u>BA</u>	<u>Midland Lutheran College</u>	<u>1951</u>	<u>History</u>

11. a) Previous positions held	Institutions	from (mo. yr.)	to (mo. yr.)
Asst. Prof. Geology	Pt. Hays Kansas State College	Sept. '69	May '70
Asst. Prof. Geology	Midland Lutheran College	Sept. '66	May '69

b) Honors, fellowships, or offices held in professional societies:

12. Desired dates and duration of visit(s) checked on page one

USSR

First choice: from 1 June 1975 to 1 July 1975 Duration: 1 mos.

Second choice: from 1 Sept. 1975 to 1 Oct. 1975 Duration: 1 mos.

BULGARIA

First choice: from _____ to _____ Duration: _____ mos.

Second choice: from _____ to _____ Duration: _____ mos.

CZECHOSLOVAKIA

First choice: from _____ to _____ Duration: _____ mos.

Second choice: from _____ to _____ Duration: _____ mos.

HUNGARY

First choice: from _____ to _____ Duration: _____ mos.

Second choice: from _____ to _____ Duration: _____ mos.

POLAND

First choice: from _____ to _____ Duration: _____ mos.

Second choice: from _____ to _____ Duration: _____ mos.

ROMANIA

First choice: from _____ to _____ Duration: _____ mos.

Second choice: from _____ to _____ Duration: _____ mos.

YUGOSLAVIA

First choice: from _____ to _____ Duration: _____ mos.

Second choice: from _____ to _____ Duration: _____ mos.

13. Language ability

If you are able to read about your field and to discuss it in any of the languages below, please specify and describe your ability.

Bulgarian: _____

Czech: _____

French: _____

German: _____

Hungarian: _____

Polish: _____

Romanian: _____

Russian: _____

Serbo-Croatian: _____

Other: _____

If you know the language of the country you wish to visit, are you able to use it well enough to take care of your everyday needs?

No

14. Please attach a list of your publications.

15. What other plans do you have in case your application could not be accepted by either the National Academy of Sciences or the academy of the country you wish to visit?

None

16. If you are selected by the National Academy of Sciences what would be a reasonable deadline for you to know whether the foreign academy would accept you? (Note lead time set forth in each exchange agreement.)

March 1, 1975 in the case of my first choice.

June 1, 1974 in the case of my second choice.

17. Please list your travel or residence outside the US (countries, purpose, dates):

England - Vacation - July and August 1971

England - Education - October 1964-July 1966

Egypt - Vacation - December 1965

Brandeis, Cuba, Morocco, Newfoundland - Military Service - Oct. '52-May '55

18. List the persons to whom you forwarded the 3 confidential reference forms:

Name	Address
<u>Prof. T. M. Harris</u>	<u>Univ. of Reading, Reading, England</u>
<u>Dr. Alfred Traverse</u>	<u>Pennsylvania State U., Univ. Park, Penn.</u>
<u>Dr. Henry H. Andrews</u>	<u>Univ. of Connecticut, Storrs, Conn.</u>

Complete items 19 through 21 ONLY if you are interested in a ONE-MONTH SURVEY VISIT.

19. Which institutes, universities, laboratories, and scientists do you wish to visit within the Interacademy exchange?
List (giving name and city):

Dr. N. P. Gmelitsky, Institute of Botany, Tashkent.

Dr. V. A. Vakhrameev, Geological Institute, Moscow

Dr. V. A. Krassilov, Geological Institute, Vladivostok

Dr. I. A. Bobruskins, Geological Institute, Moscow

If you have been in touch with them about such a visit, please indicate substance of contact:

20. What professional goals do you seek to pursue during the short-term visit(s) for which you are applying?

I wish to become acquainted with the work being done on Lower Mesozoic floras in the laboratories listed above and to compare their findings with my own on similar flora in the southwestern USA. Such comparisons should be of great interest because a number of unusual plants evolved during the Lower Mesozoic in both areas.

21. If you are prepared to lecture or conduct seminars, please indicate their titles:

Upper Triassic floras of the southwestern United States

Complete items 22 through 24 ONLY if you are interested in a LONG-TERM RESEARCH VISIT (three months or more).

22. In which institute do you wish to be placed for your research? With which scientists would you like to work? Have you been in touch with them about such a visit?

First choice: _____

Second choice: _____

Scientist or group: _____

Scientist or group: _____

Describe existing contact: _____

Describe existing contact: _____

Are there any other institutes, universities, scientists, etc., that you would like to visit during your stay in the host country in addition to the institution of primary placement? List (giving name and city):

23. Will your present employer continue your salary while you participate in the exchange program? Yes____; No____
in part, at _____ per cent.

Will you receive part of your salary from another source? Yes____; No____.

What is the source of this additional financial support? _____

What part of your salary would you request the NAS to provide? _____

Present annual salary \$ _____ (excluding consulting fees).

Are you the recipient of, or an applicant for, any fellowship during the period of your intended stay abroad?
Yes _____ No _____.

If so, give name of awarding institution: _____

Amount expected: _____ Awarded as of now? Yes _____ No _____

24. Attach a statement of 25-30 lines explaining your proposed scientific research project. Include specifically what problems you wish to approach, whom you wish to contact, what specific materials, equipment, libraries, or laboratories would be essential to your project, and what particular benefit you would expect to gain.

Date

Signature

Bibliography of Sidney R. Ash

Published

1. 1959 The Indians of west-central New Mexico: New Mexico Geol. Soc. Guidebook, 10th Field Conf., west-central N.M., p. 154-156, 1 fig.
2. 1960 The Jicarilla Apache Indians of northern New Mexico: New Mexico Geol. Soc. Guidebook, 11th Field Conf., Rio Chama County p. 128-129.
3. _____ (jr. author with E.H. Balts and G.M. Lamb) Road log from Lumberton to El Vado: New Mexico Geol. Soc. Guidebook, 11th Field Conf., Rio Chama County, p. 27-32.
4. _____ (jr. author with E.H. Balts) Road log from Gallinas to vicinity of Cuba and alternate road log from Gallina to Upper San Jose drainage divide: New Mexico Geol. Conf. Guidebook, 11th Field Conf., Rio Chama County, p. 40-44.
5. 1961 Bibliography and index of conodonts, 1949-1958: Micropaleontology, v. 7, no. 2, p. 213-244, 1 text fig., 1 table.
6. _____ (sr. author with Alfred Clabach, Jr.) Cretaceous rocks on Lea County, New Mexico: U.S. Geol. Survey Prof. Paper 424-S, art. 338, p. D139-D142, figs. 1-3.
7. _____ (jr. author with G.B. Read) Stratigraphic significance of the Cretaceous fern *Tampskya* in the western conterminous United States: U.S. Geol. Survey Prof. Paper 424-D, art. 382, p. D250-254, figs. 1-4.
8. _____ Indians, ancient and modern, in the Albuquerque area: New Mexico Geol. Soc. Guidebook, 12th Field Conf., Albuquerque County, p. 75-81, 2 figs.
9. 1962 (jr. author with E.H. Balts and S.W. West) Potential yield of deep water wells in the southern part of the Jicarilla Apache Indian Reservation and vicinity, San Juan Basin, New Mexico: U.S. Geol. Survey Prof. Paper 450-D, art. 171, p. D173-D175, 1 fig.
10. 1963 Ground-water conditions in northern Lea County, N. Mex: U.S. Geol. Survey Hydrol. Inv. Atlas HA-62, 2 sheets.
11. 1964 Bibliography and index of conodonts, 1959-1961: Brigham Young Univ. Geology Studies, v. 10, p. 3-50.
12. _____ Bibliography of New Mexico Geological Society Guidebooks: New Mexico Geol. Soc. Special Pub. no. 1, 31 p., 1 map.

13. _____ (sr. editor with L.V. Davis) Guidebook of the Rio Grande Country:
New Mexico Geol. Soc., 15th Ann. Field Conf., 195 p.
14. 1966 (jr. author with Elmer H. Balts and Roger Y. Anderson) History
of nomenclature and stratigraphy of rocks adjacent to the
Cretaceous-Tertiary boundary, western San Juan Basin, New Mexico:
U.S. Geol. Survey Prof. Paper 124-D, p. D1-D23, pl. 1, figs. 1-3.
15. 1967 The Chinle (Upper Triassic) megafloora, Zuni Mountains, New Mexico:
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16. 1968 A new species of Willissaonia from the Upper Triassic Chinle
Formation of New Mexico: Linnean Soc. (London), Jour. (Bot.),
vol. 61, p. 113-120.
17. 1963 (sr. author with David D. May) Petrified Forest—the story
behind the scenery: Petrified Forest Museum Association, Holbrook,
Arizona, 32 p., 32 photographs.
18. _____ (jr. author with William J. Brsed) New fossil plants from the
Chinle Formation: Plateau, vol. 42, no. 1, p. 34-36, 3 figs.
19. 1970 Ferns from the Chinle Formation (Upper Triassic) in the Fort
Wingate area, New Mexico: Geol. Survey Prof. Paper 613D, 40 p.
20. _____ Pagiophyllum simpsonii, a new conifer from the Chinle Formation
(Upper Triassic) of Arizona: Jour. Paleo., vol. 44, p. 945-952.
21. _____ Dinophyton, a problematical new plant from the Upper Triassic
of the southwestern United States: Palaeontology, vol. 13,
p. 646-664, pls. 122-124.
22. 1972 Piasopteris bramneri from the Lower Jurassic, Egypt: Review
of Palaeobotany and Palynology, vol. 13, p. 147-154, 1 pl., 1 fig.
23. _____ Plant megafossils of the Chinle Formation; in Investigations in
the Triassic Chinle Formation: Mus. Northern Ariz. Bull. 47,
p. 23-43, 1 pl., 4 figs., 1 table.
24. _____ The search for plant fossils in the Chinle Formation, Ibid.,
p. 45-58, 15 figs.
25. _____ Upper Triassic Dockum flora of eastern New Mexico and Texas: New
Mexico Geol. Soc. Guidebook. 23rd Field Conf., p. 124-128, 2 figs.
26. _____ Marconia gen. nov., a problematical plant from the late Triassic
of the southwestern U. S. A.: Palaeontology, v. 13, p. 423-429,
pl. 80.
27. _____ Late Triassic plants from the Chinle Formation in northeastern
Arizona: Ibid., v. 13, p.
28. 1973 Two new Late Triassic plants from the Petrified Forest of
Arizona: Jour. Paleo., v. 47, p. 46-53, pls. 1, 2.

Abstracts

1. 1961 (with C. B. Read) The stratigraphic significance of the fossil fern Tempakya in the western states: New Mexico Geol. Soc., Guidebook, 12th Field Conf., Albuquerque Country, p. 198.
2. 1962 The conodonts--a neglected stratigraphic tool in New Mexico: New Mexico Geol., Soc. Guidebook, 13th Field Conf., Mogollon Rim Region, p. 173.
3. 1964 Upper Triassic plants of New Mexico and Arizona: New Mexico Geol. Soc. Guidebook, 15th Field Conf., Hudsons Country, p. 183.
4. 1967 Preliminary results of a reinvestigation of the Chinle megaflores New Mexico and Arizona: Geol. Soc. Am., Rocky Mt. sec., 20th Ann. Meeting, Program, p. 20.

In Press

1. Fossil plants from the middle shale member of the Santa Rosa Sandstone: Accepted for publication in a U. S. Geol. Survey Bull.
2. Occurrence of the controversial plant Sanniguella in the Upper Triassic of Texas: Accepted for publication in the Texas Jour. Sci.
3. (senior author with C. B. Read) North American species of Tempakya and their stratigraphic significance: Accepted for publication in a U. S. Geol. Prof. Paper.

In Preparation

1. Origin, history, and paleoecology of a Late Triassic lake in western New Mexico, a symposium: scheduled to be submitted for publication as a Geol. Soc. Amer. Memoir in Sept. 1973.

Unpublished

1. 1961 Geology and ground water resources of northern Lea County, New Mexico: Unpub. Master's Thesis, Univ. New Mexico, 75 p., 20 figs. (largely included in U. S. Geol. Survey Hydrologic Inv. Atlas HA62, see publication no. 10 listed above.)
2. 1966 The Upper Triassic Chinle flora of the southwestern United States: Unpub. PhD thesis, Univ. Reading, England, 222 p., 11 pls., 29 figs., 3 tables. (Largely included in U. S. Geol. Survey Prof. Paper 613D, see publication no. 19 listed above.)

CONFIDENTIAL REFERENCE FORM

Please complete and return to: Section on USSR and Eastern Europe
Office of the Foreign Secretary
National Academy of Sciences
2101 Constitution Avenue
Washington, D. C. 20418

Name of applicant: Sidney R. Ash

Reference requested from: Dr Alfred Traverse

Program applied for (check appropriate box):

- Academy of Sciences of the USSR
- Hungarian Academy of Sciences
- Bulgarian Academy of Sciences
- Polish Academy of Sciences
- Czechoslovak Academy of Sciences
- Academy of Romania
- Council of the Academies of Yugoslavia

The National Academy of Sciences is faced with the serious responsibility of selecting qualified American scientists for scientific research in the institutes of the appropriate country for periods ranging from one to twelve months. The benefit which the participants in this exchange program will derive from their stay and the future of the program will depend in part on the wisdom with which the selections are made.

We request candid and complete references, for we must rely heavily on the judgment of persons who know the applicant. A candid commentary which assays both the applicant's strengths and weaknesses not only will assist the selection panel, but also will benefit the applicant himself in the long run. All references will be kept strictly confidential.

1. How long have you known the applicant and in what capacity?

For about three years by correspondence on a fairly regular basis; only this year on the basis of a personal visit to Ogden, Utah, for several days. However, I felt that I knew Sid well before the personal visit.

2. Have you seen the completed application to which this reference refers? Yes (X) No ()

3. How would you compare the applicant in his intellectual ability, professional competence, and promise with others you have known at the same stage of their professional careers?

Sid is one of the top paleobotanists in North America from the point of view of his published work--and if allowance is made for his isolation and rather second-class facilities he looks even better. In his age group he is certainly in the top ten in North America.

4. If the applicant were applying to your institution for a position:

- a. Would you seek him as your colleague? (X) very definitely
- b. Would you be willing to have him as your colleague? ()
- c. Would you rather not have him as your colleague? ()

5. If you feel competent to make a judgment, how would you rate the applicant's proficiency in the language of the country he wishes to visit:

- a. reading We discussed this matter, as I have been working on Russian
- b. writing for some time. Sid can read a little but has no
- c. speaking other competence in Russian.
- d. understanding

6. Is there anything else about the applicant, professional or personal, which you believe a selection panel should take into consideration?

Nobody is likely to mention it, but the fact that Sid's wife is a full-blooded Hopi Indian makes him a more interesting American representative. She is also a delightful person.

7. On balance, do you—(check one)

- a. strongly support the applicant's proposed exchange visit? (X)
b. support the applicant's proposed exchange visit? ()
c. not support the applicant's proposed exchange visit? ()

8. Recognizing that all of us have our strengths and weaknesses, what do you consider to be the applicant's strengths and weaknesses, academically and personally?

Sid's strength is complete devotion to his work. Aside from his wife and kids, I can see no other conflicting interests. As a result, he manages to get some great paleobotany done despite little encouragement from his college and very heavy teaching loads. He is hard-working, earnest, perceptive and imaginative.

Sid's weak points are shyness, lack of self-confidence and verbal deficiency. He does not express himself as articulately as might

9. ~~he expected of a college professor.~~ The special pressures and responsibilities imposed by the Soviet or East European environment require that the exchange participant be an exceptionally mature and emotionally stable person. In these respects, do you consider the applicant (and any dependents who might accompany him) completely qualified for an extended stay? Sid is positively stoical, and, of course, his Indian wife is even more so--at least that is the image they project, and I have now seen them in a good many different situations. I would consider them absolutely ideal from this point of view. As non-Mormons in an almost totally Mormon environment they have already proven their ability to get along under conditions where they are part of a non-too-trusted minority.

Reply to question 10 if applicant is applying for research visit of three to twelve months.

10. What is your judgment of the applicant's proposed research project with particular reference to its feasibility under conditions in the country he wishes to visit and the applicant's capacity to carry it out discriminately and profitably? Do you consider the applicant to be sufficiently realistic concerning the problems which he might encounter in pursuing his research project?

Presuming that Sid is given access to the fossils, there is no question that he will come back with a great deal of valuable information for American paleobotany. I would say it is a good project, though I don't know the people he intends to visit.

Alfred Traverse
Signature: Alfred Traverse Date 8 Nov., 1973
Title: Professor of Geology and Palynology
Address: Deike 529, Pennsylvania State University, Univ. Park, PA 16802



WEBER STATE COLLEGE

3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

February 19, 1973

Dr. Alfred Traverse
Department of Geology
The Pennsylvania State University
University Park, Pennsylvania 16302

Dear Al:

Thanks for sending me a copy of Dunay's thesis. He certainly has done a fine job and I hope he will publish it soon. It will certainly be a shame if his findings remain unpublished for very long.

I am sorry that you will not be able to go on the Monument Valley field trip when you are out in this area next fall. However, would it be possible for you to talk to our geology club here at WSC when you are in Ogden? We try to give our students as much exposure to outside geologists as possible and your visit gives us too good an opportunity to pass up. I know they would like hearing from you. Your talk would not have to be an elaborate type of address. It could just be a low key discussion of Palynology, or of some other subject if your desire.

Best wishes.

Sincerely,

Sidney R. Ash
Associate Professor of Geology

SRA:nh

January 5, 1973

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thanks for yours of 19 December. I am sure that ~~ah~~hereason you haven't received a copy of Dunay's thesis is that he left here in quite a hurry to take up his employment in Calgary. In any case, I am sending you one under separate cover. You will note that it is a xerox copy which means that the typed material and the line drawings are all fine, but the photographic plates are practically useless. Should you develop a need for better copies of the plates, we could presumably have them printed from the negatives, but at the moment there seems to be no cash lying around to prepare such-- quite likely will be a possibility at some future date if you are interested.

I am already looking forward to the trip next October, and have some plans for collecting in Utah as well as visiting you. The field conference sounds great, but it is too far ahead of the AASP meeting, which if it follows previous "tradition" will take place in Anaheim around the third week of the month.

In any case, I am certainly looking forward to meeting you in October, God willing. Best wishes to you for all of 1973.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi



WEBER STATE COLLEGE 3750 HARRISON BLVD., OGDEN, UTAH 84403

JOSEPH L. BISHOP, PRESIDENT

OFFICE OF THE DEPARTMENT OF
GEOLOGY AND GEOGRAPHY

December 19, 1972

Dr. Alfred Traverse,
Professor of Geology and Biology
Deike Building
The Pennsylvania State University
University Park
Pennsylvania 16802

Dear Al:

Thanks very much for your recent letter. The NMGS article was published in October, 1972. Sorry that the date doesn't appear on it someplace. I have two more papers on the Dockum flora in press and will send you reprints when I get my supply. One is a part of a USGS Bulletin on a reference section for the Santa Rosa Formation and the other is a short paper reporting the occurrence of Sanmiguelia in the Dockum near Amarillo, Texas.

Although Bob Dunay promised to send me a copy of his thesis I never received one. As a matter of fact I was just getting ready to write and ask him for a copy. If you do have a spare copy, I would appreciate receiving it.

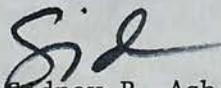
Yes, I will be in Ogden during most of October and I will be happy to show you around. If you have the time, we also might run down to Provo and visit Bill Tidwell at BYU. You did not mention exactly when the AASP meetings are being held in October and the latest Geotimes does not give the date either. The reason I am concerned is that the New Mexico Geological Society is holding its annual field conference in southeastern Utah and adjacent areas in Northeastern Arizona (Monument Valley - Black Mesa - Defiance Uplift area) on October 4-7. I am general chairman of the conference and will probably spend the better part of that week in that area. After the conference is over, however, I'll come right back to Ogden and get busy teaching. Perhaps you would be interested in attending the field conference yourself. We'll see lots of Permian - Cretaceous rocks which you could sample - if you wanted to.

I am trying to get people interested in having a field trip in connection with the AIBS meetings when they are held in Tempe in June 1974. There are a number of fossiliferous localities within one days drive of Tempe. Many more could be seen, however, if the Field trip lasted longer. Stops could be made at the Devonian locality in the Salt River Canyon, several Permian localities, as ^{well as} my Chinle ones and a number of Cretaceous ones. And if the participants were really ambitious they could hike down to David White's Hermit Shale locality in the Grand Canyon. I have written to Tom Taylor about my ideas since he apparently will be responsible for any trips that will be held then.

NSF has renewed my research grant for another 2 years so I will be able to continue my work on the Chinle - Dockum flora for at least that much longer. Hopefully we will know a little more about plant evolution during the Upper Triassic at the end of the grant period than we do at present.

Hope to see you out here one of these days.

Sincerely,



Sidney R. Ash
Associate Professor of Geology

SRA/bs

December 7, 1972

Dr. Sidney R. Ash
Department of Geology
Weber State College
Ogden, Utah 84403

Dear Sid:

Thank you so much for the reprints of your papers on the Chinle Formation which arrived fairly recently. Naturally I have found reading them especially interesting after visiting some of the localities mentioned. I am filled with the greatest respect for your skill as a collector since in our palynological collecting trips I have never seen anything more than a few scraps of the plants which you describe. The pap

The paper reprinted from the New Mexico Geol. Soc. Guidebook does not carry with it a date unfortunately, and sometime I would like to have a postcard providing that information should, as seems likely, we need to refer to it. On page 126, with regard to the spore which in our preliminary paper was called Retusotriletes-- in Dunay's thesis this was called Carnisporites sp. on the basis of further work which Bob did with the spores and with the literature.

By the way, I wonder if you were ever sent a copy of Dunay's thesis? It was Bob's intention and mine that you should get one, and I will send one off to you if I hear from you that you didn't get one and would like one.

It has been continued frustration for me that after these several years of correspondence I still haven't had the pleasure of meeting you. My current best hope in this direction is that on the way to the AASP meeting in California this coming October I might be able to spend a couple of days in Utah. In fact, I would very much like to do this and suppose that it's not too early to ask whether you will be in Ogden in October of 1973?

Dr. Sidney R. Ash

-2-

December 7, 1972

Best wishes to you for the holiday season.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi
cc Robert Dunay



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

January 21, 1971

Dr. Alfred Traverse
Department of Geology
Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

I have been meaning to send you some samples from the Dockum ever since last fall. Time, however, got away from me and I have just gotten around to preparing a small package of samples from various localities in Texas. The package also contains two from the Chinle--one from a locality in New Mexico and another from Utah.

The attached list gives the locality information. If you should need more detailed data on the localities or a larger sample, please let me know. I hope some of the samples contain pollen and spores for you and Mr. Dunay to work on.

My family and I will be back in Albuquerque for the summer. While there, I expect to spend a few days in West Texas again. Perhaps, we could arrange to meet there at that time.

I had a ^{short} visit with Fred May over the holidays. I am sorry that I didn't have much time to talk to Fred about his research. What little I heard, sounds interesting. It is about time someone did work on the microfossils of the Dakota in this area.

Sincerely yours,

Sidney R. Ash
Associate Professor of Geology

bjs

Enclosures

Sample
Number

Locality and Associated Plants

1. Approximately $\frac{1}{4}$ mile east of the Baptist Church camp in South Ceta Canyon, near Canyon, Texas. Tecovas Fm. Sanmiguelia.
2. About two miles northwest of Kalgary, Texas in the headwaters of Home Creek. Tecovas Fm., about 10 feet above the Permian. Otozamites powelli, Dinophyton spinosus, unidentified seeds. Also many vertebrate remains.
3. On the north side of Cedar Creek about one-half mile southwest of its intersection with Sierrita de la Cruz Creek and about three miles northwest of the Vanetti Ranch. (See USGS Ady, Texas quad.). In the Tecovas Fm., about 34 feet above the Permian. Lots of ferns including Phlebopteris smithii, Clathropteris walkeri.
4. As in sample 3, but about 3 feet above the Permian. Unidentified plant fragments.
5. North side of Tule Canyon about 2 miles east of the Texas highway 284 about 100 feet above the floor of the canyon. Probably Trujillo Fm. Unidentified plant fragments.
6. Northeast side of Palo Dura Canyon below Fortress Cliff. A lens in the Tecovas Fm. Several unidentified conifers.
7. Floor of Palo Dura in the first big draw west of Devil's Slide. Tecovas Fm., about 20 feet above the Permian Fragmentary leaves.
8. Head of Sunday Canyon Branch of Palo Dura Canyon, Texas. Upper part of Trujillo Fm. Unidentified conifers.
9. Capital Reef National Park, Utah. Chinle Fm., unidentified conifers and Neocalamites.
10. Fort Wingate, New Mexico. Monitor Butte Mbr., of the Chinle Fm. Many undescribed conifers.

J. D. Day
H. 13

January 26, 1972

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thank you for your interesting letter of 4 January, which it has taken me entirely too long to get around to answering. I have enjoyed reading your letter and the part of your report which accompanied it very much. Bob Dunay, my student, and I have chewed over some of the issues, and I am happy to report that he and I see the matters eye to eye! First of all, it is quite possible for dispersed spores and *in situ* spores to have different names. In fact, that is the rule for forms which are known in both the dispersed and attached condition. If you find the things dispersed you must use the dispersed name. It is common in such cases to make a parenthetical statement about the known affinity. In other words, your report does not transfer *Equisetosporites* to *Masculostrobus*. I am convinced, and I think I told you this before, that *Equisetosporites* has priority over the other competing names. However, *Gnetaceapollenites* is quite probably different. In any case, you don't have any problem. I feel that you could simply state if you wished to that the pollen in your cones would be referable to *Equisetosporites chinleana*, if found dispersed. *Equisetosporites* clearly has priority over *Ephedripites*, if the two genera are con-generic, as I think is probably the case.

Regarding your report itself, I have a couple of comments. On page 24 and at many other places within the report you use the term "miospores". This should only be used for dispersed spores.

In your paper you should refer to these things as pollen. On page 27, you should use the abbreviation, if you wish to abbreviate, *E. chinleana*.

Hoping that this has been modestly helpful, I am with best wishes.

Yours very truly,

Alfred Traver~~e~~
Professor of Geology & Biology

AT/vsi



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

January 4, 1972

Dr. Alfred Traverse
Professor of Geology and Geography
Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

As you probably recall, I have been working on a cone containing miospores resembling the grains called Equisetosporites by Daugherty and then transferred to Ephedra by Scott. I have finally finished a little report containing, among other things, a description of the cone and its miospores. A copy of that portion of the report is enclosed. I would appreciate it if you could take the time to examine the manuscript critically and let me know your reactions and recommendations.

I am a little hazy on the rules of botanical nomenclature and I hope you can help me on that aspect of my report. I do not want to contribute to the confusion surrounding the appropriate names for the miospores in my cones and similar isolated grains that have been called various things in the past. (It certainly would be easier to discuss this face to face, but maybe we can accomplish the same thing by letter.)

First, can we have one name for isolated grains and another for in situ grains? If not, does my report effectively transfer the Upper Triassic grains called Equisetosporites and Ephedra to M. clathratus? I am convinced that the grains referred to these two genera are the same as the ones in my cones. However, I do not think they are the same as, at least some of the others, called Ephedripites and Gnetaceapollenites in the past. Thus, I would not want to transfer those two genera to mine without further study. I do feel that the holotype of Equisetosporites is identifiable and that the grains from the Chinle Formation should be referred to that genus, if not to M. clathratus, and not Ephedra, Ephedripites, or Gnetaceapollenites.

Any assistance you can give me will be appreciated.

Sincerely,

Sidney R. Ash
Associate Professor of Geology

R.D.
Therapsid
stipulated
large wings!
Also: Part 64
sup. to same
i.e. that
D. E. Ash
has not
mentioned
P.S. Hope you had a
successful trip to the
SW last fall.
SRA:df

Genus Masculostrobos Seward, 1911, em. Barnard, 1968

Masculostrobos clathratus sp. nov.

Plate 6, text-fig. 6D-K

Holotype: USNM 168984. Paratypes: USNM 168956, 168955, 168954.

Derivation of the name: The specific name is derived from the Latin, "clathratus", latticed, and refers to the lattice-like appearance of the ectexine of the miospores that occur in these cones.

Diagnosis: Cone cylindrical, length four to five times the radius (range noted 9-18 mm. in length, 4-8 mm. in diameter), having a smooth stalk about 1 mm. in diameter, 2 mm. long. Cone axis about 1 mm. in diameter, containing several tracheids and several (usually 4-6), narrow (about 50 μ m.) strands, bearing spirally arranged fertile appendages. Appendages consisting of a slender stalk and a broad head. Stalk about 2-3 mm. long, 0.5 mm. wide, attached at 90° to the cone axis in the middle of the cone, expanding on lower part of the inner surface of the head, containing two narrow strands. Strands parallel, arising from strands in cone axis by forking, extending into the upper part of head where they disappear, composed of parenchyma cells. Head oval in outline with a forward pointing, acuminate apex, width exceeding height, about 2-2.5 mm. wide, 1.7-2.0 mm. high, outer surface usually concave, inner surface convex, sometimes both surfaces straight, occasionally outer surface convex, inner concave, about 25 μ m. thick away from stalk, bearing 5 sacs. Sacs elliptical, attached to or behind lower edge of head, upper portions fused, lower portions hang free, (walls poorly preserved), containing numerous ^x miospores, spore masses elipsoidal, about 400-550 μ m. long, 200-300 μ m. in diameter. ^{**} Epidermal cells of head (outer surface?) isodiametric, irregularly rectangular, anticlinal walls thick (range noted 6-10 μ m.) average width 8 μ m.

x not approp. for non-
dispersed spores - pollen
** descr. from spores
- next page

j
↓

Miospores round to elliptical in distal view, about 48-60 μm . x 24-60 μm ., consisting of a sulcate endexine and a ridged ectexine. Endexine thin (about 1 μm . thick), smooth, sulcus, extending full length of grain, greatest width near middle, narrowing at ends, lips narrow. Ectexinous ridges 12-25, alternating with narrow furrows, extending meridionally, often with a slight spiral toward the poles of the major axis. Ridges about 2-5 μm . wide, 1 μm . thick, semicircular in cross section, converging near the poles, usually forming four distinct areas of convergence. Areas of convergence opposite to sub-opposite at the poles, separated by 1-3 polar ridges that extend with a slight spiral almost around the grains in the direction of major axis. Polar ridges sometimes joined near the poles, in some grains partially reflexed by extensions of sub-opposite convergence points past the midline of the grain. Ridges marked on their inner side by granules called "columellae". Rarely all bands fuse at poles to form a single small polar area.

Discussion: M. clathratus is fairly common at locality 10093 being represented by 40 more or less good specimens. As far as can be seen they are all very much alike. The heads of the appendages usually are preserved as a coaly structure showing no surface details of interest and no remains of any coherent surface membrane or cuticle. In these the substance has cracked into tiny pieces and on maceration it gives no useful result. Transfers do give a little additional information and a dozen or so were made. Epidermal cells were observed on two heads in one cone that had been transferred. Some of these cells are shown in text-fig. 6K, but I do not know whether they come from the outer or inner surface of the heads. Other transfers showed masses of spores and some of the internal structure of the cone axes and appendage stalks (see text-fig. 6H).

Sporangia are preserved at or near the lower edges of several of the heads (see text-figs. 6D-6H) and these show many miospores but no definite details of the wall tissue. Miospores are fairly numerous in some of the sporangia but do not form a dense mass. It looks as though the sporangia had opened but many miospores had stuck to the wall. Although they often look well preserved in the transfers, the miospores contained in the cones were entirely destroyed by maceration. Oddly enough, macerations of the rocks associated with the cones yielded many miospores resembling those found in the cones. The cone axes contain several narrow coherent strands composed of parenchyma cells. The strands fork occasionally and a pair of branches from adjacent strands enters each appendage stalk (text-fig. 6H) and then passes into the appendage head where they disappear some distance below the upper margin (see text-figs. 6E,6F). These strands closely resemble the strands that occur in the leaves and sporophylls of Dechellyia and as in that plant their function is uncertain. In contrast to Dechellyia, however, tracheids are preserved in the cone axes and appendage stalks in association with the strands.

Comparisons: I find it difficult to compare this cone because I know so little about its gross organization. However, what little is known suggests that it does not compare very closely with any of the fossil cones which have been described in detail during the past. This is emphasized when the sacs on the appendage heads of M. clathratus and the miospores they contain are considered.

The miospores contained in the cones considered here do agree with the microfossil that was described from the Chinle Formation as Equisporites chinleana by Daugherty in 1941. The specimen was originally interpreted as being a round spore wrapped in two elaters resembling the spores of the living Equisetum. I have examined the specimen and it seems to me that the supposed elaters are merely ektexine ridges somewhat similar to those of the present grains and of the pollen of some living species of Ephedra, as Scott noted (1960). The fossil called ^{E.} (Eq.) chinleana resembles the miospores described here in most characters. It falls within the size range shown by them and all have a smooth, thin-walled endexine and a ridged ektexine. The ridges and furrows of the ektexine are about the same size and have the same arrangement and converge at the poles of the grains where they are typically united.

In 1960 Scott reported the discovery in the Chinle Formation of pollen grains that fairly closely resemble the grains of the living Ephedra. Scott demonstrated that his fossils were also very close to ^{E.} (Eq.) chinleana and concluded (1960, p. 276) they were conspecific. He proposed, therefore, a new combination of names for both the fossil Daugherty had described and the grains he had discovered, calling them Ephedra chinleana (Daugherty) Scott. I have examined several examples of the grains Scott described and agree that they are indeed similar to the fossil Daugherty called Eq. chinleana and are probably conspecific.

The grains described here are also similar to those described by Scott in 1960. They are about the same size and have a smooth endexine and a ridged ekstexine. The ridges have conspicuous granules or columellae on their inner faces and converge to two points near each polar area where they typically are united. The only noticeable difference is that in the grains found in the cones of M. clathratus the endexine occasionally is elliptical with pointed ends and has a sulcus extending the entire length of the grain. Scott figured some grains which show only the endexine and none of these are sulcate. Only one of Scott's grains consists of both the endexine and ekstexine and although it is elliptical it is not sulcate. All the other grains figured by him have lost their endexine.

Although the dispersed pollen grains called Ephedra chinleana are as Scott showed very like the pollen of Ephedra and the miospores from M. clathratus are equally similar the whole cone looks different. At present I have little precise knowledge of the way in which the sporangia are attached to the head and how the head is attached to its stalk. Although I see no resemblance to Ephedra I admit that further knowledge might disclose some. If the cone should prove to belong to the same plant as Dechellyia then the number of differences from Ephedra would be considerably increased.

Some of the grains of M. clathratus also resemble certain of the miospores described by Wilson (1962) from the Upper Permian rocks of Oklahoma. The grains described by him under the names Vittatina lata, V. costabilis, V. sp. and Ephedripites corrugatus are all somewhat similar in size, shape and in their external ribs. The ribs, however, differ in being united to the endexine and not separate as here. ^{Arrangement of striae also different.} Furthermore, none of these Permian grains have been shown to have a sulcus.

October 6, 1971

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thank you very much for yours of 27 September, which has been most useful to Bob Dunay and me. I regret that it will not be possible for me to stop in Ogden on the way to Tucson because of other obligations. However, I would very much like to take a rain check on your suggestions, and perhaps it will be possible for me to make a separate trip out your way later in the fall if you will have me. Thanks especially for the information about the people at West Texas State. I am firing off a letter to them right away in the hope that they will be willing to see us.

Looking forward to future contracts, I am

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/kai

bcc Bob Dunay

September 28, 1971

Dr. Sidney Ash
Department of Geology
Weber State College
Ogden, Utah 84403

Dear Sid:

I am enclosing something I should have sent you before, which is a copy of your original sample list to us with an indication as to whether the samples contained spores and pollen or not. These samples for which the sample numbers are circled are palyniferous, and those which have an "x" through the number were barren. Most of the of the samples have been run more than once.

Looking forward to future contact with you (at the AASP meeting?),
I am

Yours very truly,

Alfred Truverse
Professor of Geology & Biology

AT/vsi

Enclosure: copy of sample list

P.S. Bob Dunay and I have decided to go on the "official" post-meeting field trip, which will be led by Gerhard Kremp and will visit various Triassic localities in northeastern Arizona. Perhaps that would be of some mild interest to you?



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

September 27, 1971

Dr. Alfred Traverse
Professor of Geology and Biology
Deike Building
Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

Thank you for your recent letter. As you requested I have marked my localities on the highway maps you sent and am returning them with this letter. Also I am enclosing xeroxes of two pertinent topographic maps which will give you more data on the Cedar Creek and Kalgary localities. I hope that this new data will help you find the localities or at least get close to them. Of course, nothing beats having someone guide you to his localities personally!

I wish I could attend the AASP meetings in Tucson but there is no possibility of me doing so. On the other hand, could you come by Ogden on your way to Tucson. That way we could have a little chat and it would give you an opportunity to see Tidwell's Jurassic palm locality. Also you could see his fantastic collection of Sanmiguelia. Some of the leaves are 2 feet long and a foot wide. In addition he has a fairly complete example of the plant in position of growth. It will really boggle your mind when you see that specimen.

I just missed meeting Bob Dunay in London last summer. I visited the University of London the day after he had been there. Hope he had a profitable and interesting time while in Europe.

Sincerely,

Sidney R. Ash
Associate Professor of Geology

SRA:df

Enclosure

P.S. I don't remember exactly where the Fort Wingate (#10) sample came from but I believe it was from or near USGS loc. 10060 (see my fern paper, fig. 11).

By the way the members of the geology faculty
at West Texas State ~~College~~^{University} in Canyon might
be of help to you. Especially Dr. Jack Hughes
(Actually he is an anthropologist but he knows
a great deal about the Dockum in ~~the area~~^{the area}
of Canyon) and Dr. Bob Burton who is head
of the geol dept at WTSU. If you get
in touch with them please give them my
regards.

Highway maps - 1940's
 Pottery
 Kamball
 for Mrs. Terry
 Highway maps - N.M.
 McKinley

N.M. 1
 Ft. Wingate

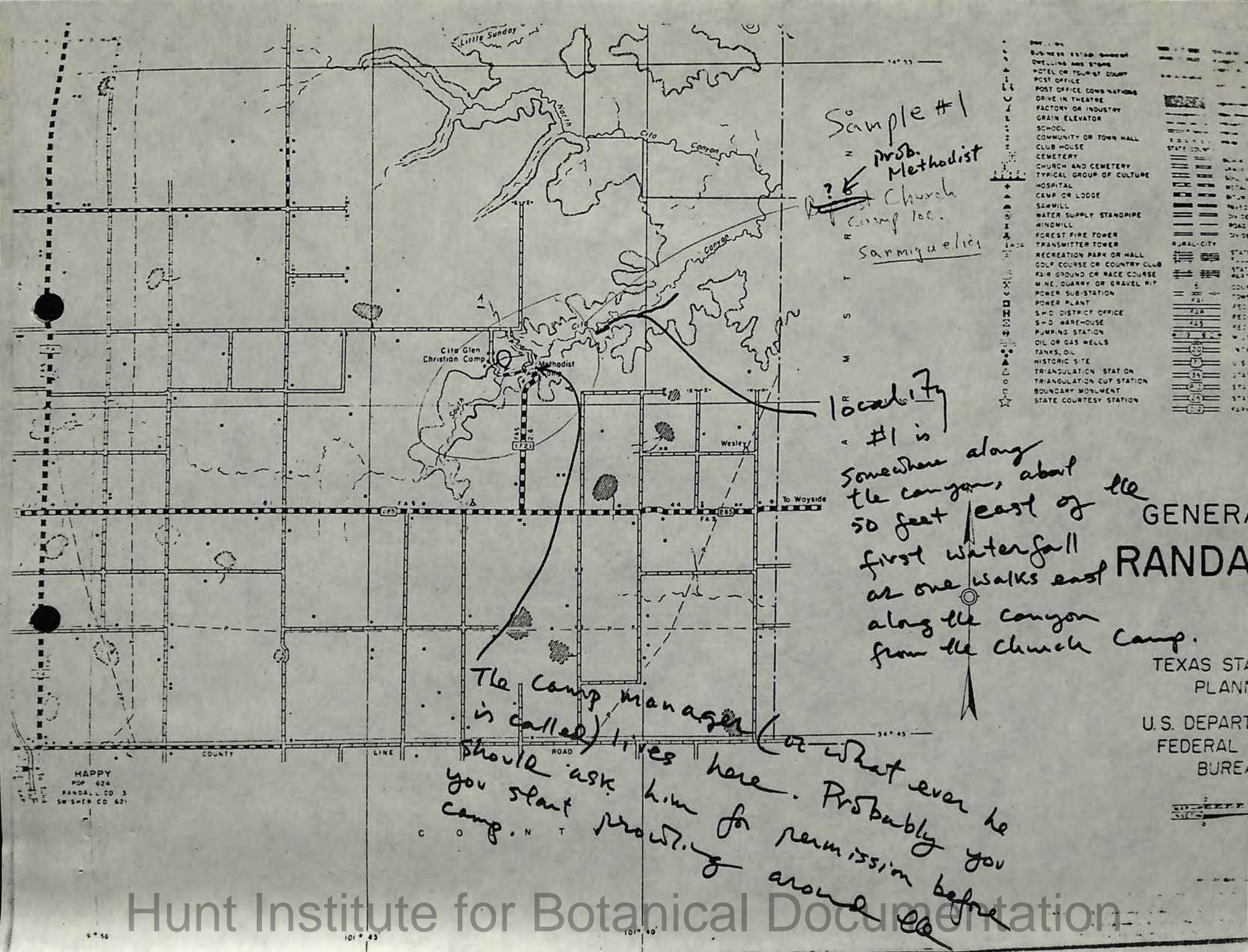
75105
 Canyon quad.
 Holy
 Small Tank - out to
 1544
 Canyon quad.
 Luff's sp.
 Pleasant Crk.
 Grip Creek

Sample
 Number

Locality and Associated Plants

- ✓ 1. Approximately ½ mile east of the Baptist Church camp in South Ceta Canyon, near Canyon, Texas. Tecovas Fm. Sanmiguelia. S. of Amarillo Canyon, Texas ✓
- ✓ 2. About two miles northwest of Calgary, Texas in the headwaters of Home Creek. Tecovas Fm., about 10 feet above the Permian. Otozamites powelli, Dinophyton spinosus, unidentified seeds. Also many vertebrate remains. ✓
- ✓ 3. On the north side of Cedar Creek about one-half mile southwest of its intersection with Sierrita de la Cruz Creek and about three miles northwest of the Vanetti Ranch. (See USGS Ady, Texas quad.). In the Tecovas Fm., about 34 feet above the Permian. Lots of ferns including Phlebopteris smithii, Clathropteris walkeri.
- ✓ 4. As in sample 3, but about 3 feet above the Permian. Unidentified plant fragments.
5. North side of Tule Canyon about 2 miles east of the Texas highway 284 about 100 feet above the floor of the canyon. Probably = 2572 Trujillo Fm. Unidentified plant fragments.
- ✓ 6. Northeast side of Palo Dura Canyon below Fortress Cliff. A lens in the Tecovas Fm. Several unidentified conifers.
- ✓ 7. Floor of Palo Dura in the first big draw west of Devil's Slide. Tecovas Fm., about 20 feet above the Permian Fragmentary leaves.
- ✓ 8. Head of Sunday Canyon Branch of Palo Dura Canyon, Texas. Upper part of Trujillo Fm. Unidentified conifers.
9. Capital Reef National Park, Utah. Chinle Fm., unidentified conifers and Neocalamites.
- ✓ 10. Fort Wingate, New Mexico. Monitor Butte Mbr., of the Chinle Fm. Many undescribed conifers. = 2569

pottery
 McKinley Co. sp.



Sample #1
 Prob. Methodist
 Church
 Camp loc.
 Sarmiguelia

Locality
 #1 is
 somewhere along
 the canyon, about
 50 feet east of the
 first waterfall
 as one walks east
 along the canyon
 from the Church Camp.

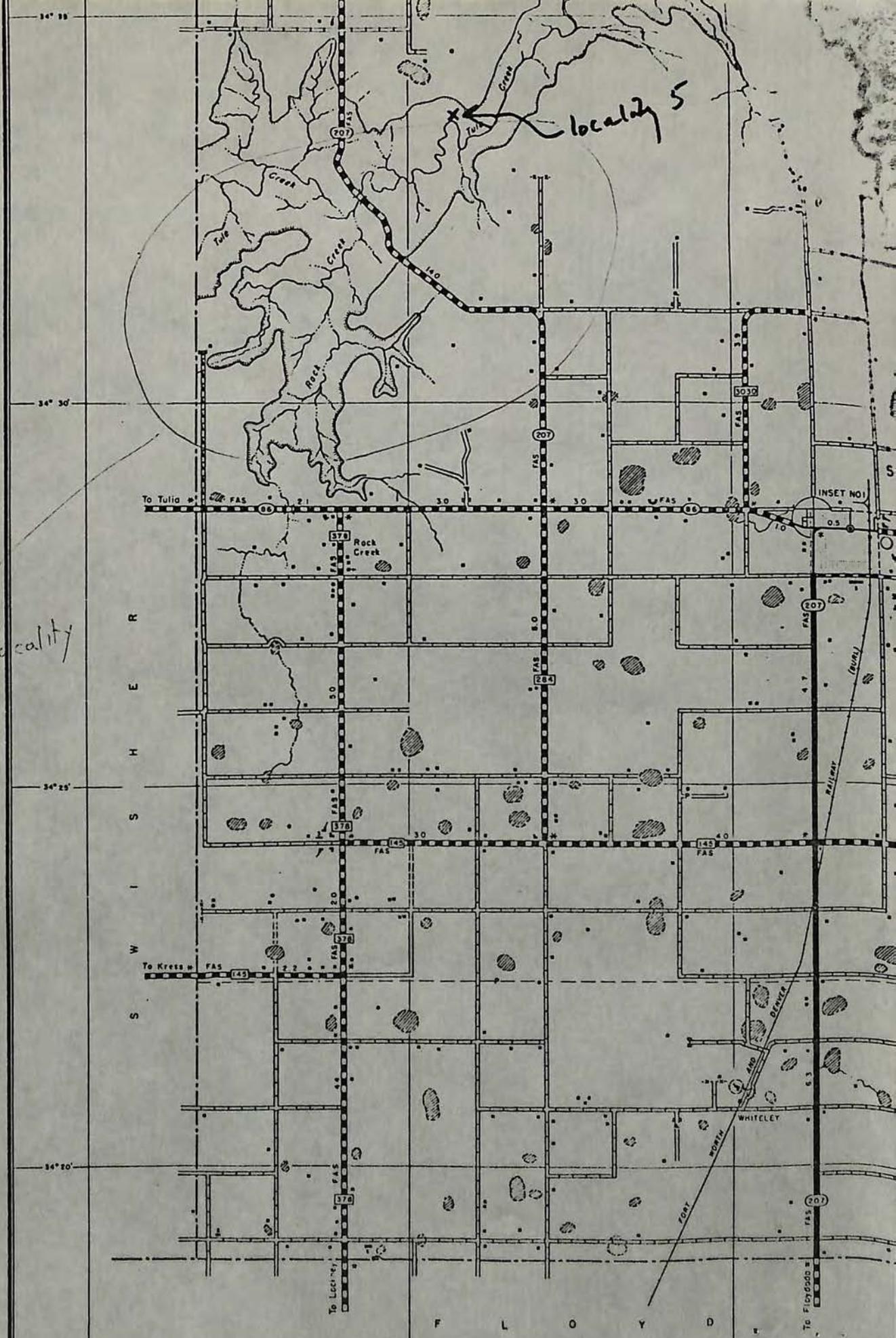
The Camp manager (or what ever he
 is called) lives here. Probably he
 should ask him for permission before
 you start prowling around the
 camp.

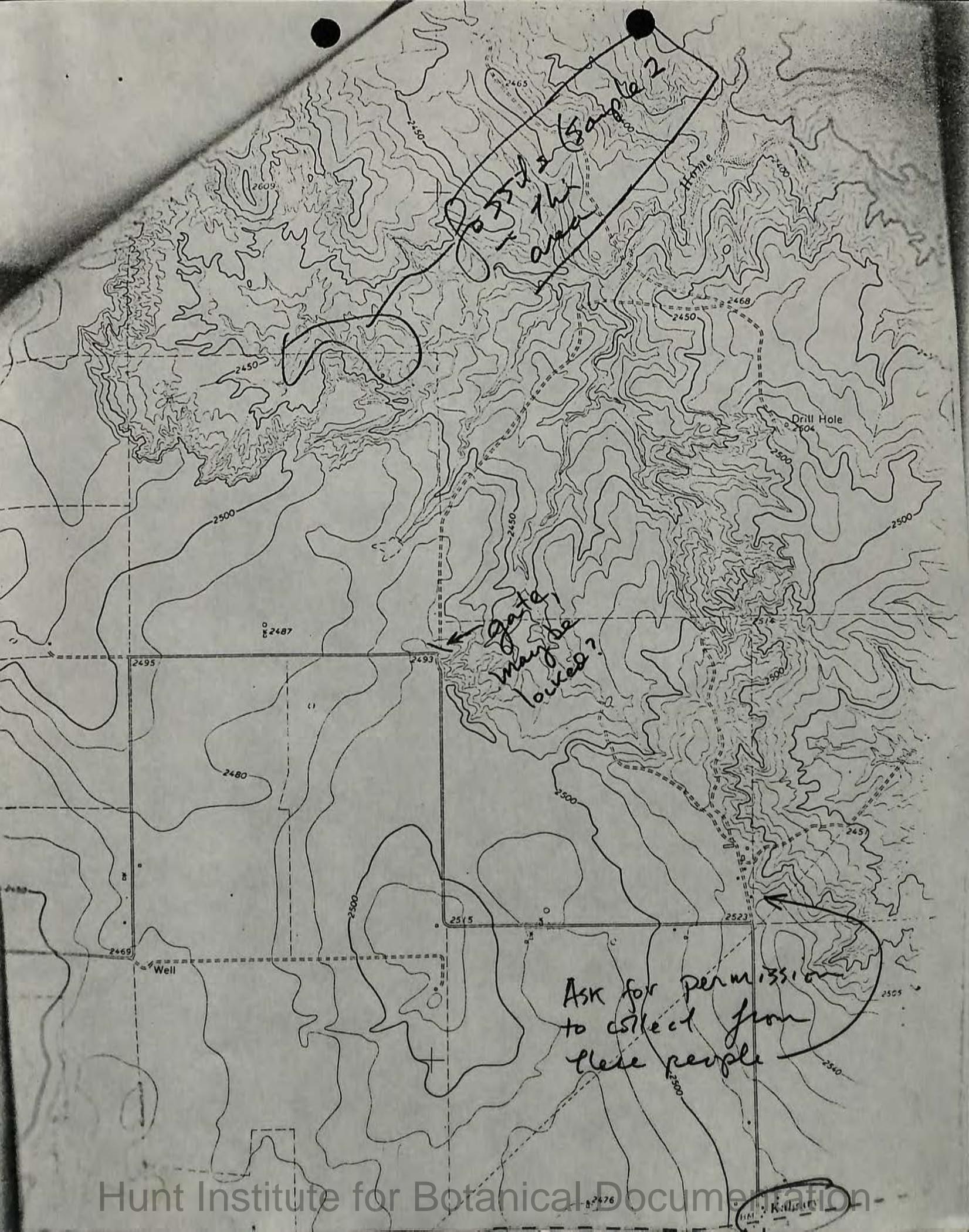
- BUSINESS ESTABLISHMENT
- DWELLING AND STORE
- HOTEL OR TOURIST COURT
- POST OFFICE
- POST OFFICE CONVENTION
- DRIVE IN THEATRE
- FACTORY OR INDUSTRY
- GRAIN ELEVATOR
- SCHOOL
- COMMUNITY OR TOWN HALL
- CLUB HOUSE
- CEMETERY
- CHURCH AND CEMETERY
- TYPICAL GROUP OF CULTURE
- HOSPITAL
- CAMP OR LODGE
- SAWMILL
- WATER SUPPLY STANDPIPE
- WINDMILL
- FOREST FIRE TOWER
- TRANSMITTER TOWER
- RECREATION PARK OR HALL
- GOLF COURSE OR COUNTRY CLUB
- FAIR GROUND OR RACE COURSE
- MINE, QUARRY OR GRAVEL PIT
- POWER SUB-STATION
- POWER PLANT
- S.H.O. DISTRICT OFFICE
- S.H.O. WAREHOUSE
- PUMPING STATION
- OIL OR GAS WELLS
- TANKS, OIL
- HISTORIC SITE
- TRIANGULATION STATION
- TRIANGULATION CUP STATION
- BOUNDARY MONUMENT
- STATE COURTESY STATION

GENERAL
 RANDALL
 TEXAS STATE
 PLANNING
 U.S. DEPARTMENT
 FEDERAL
 BUREAU

HAPPY
 POP. 624
 PANDAL CO. 3
 SHERMAN CO. 621

Sample #5
Tule Canyon locality

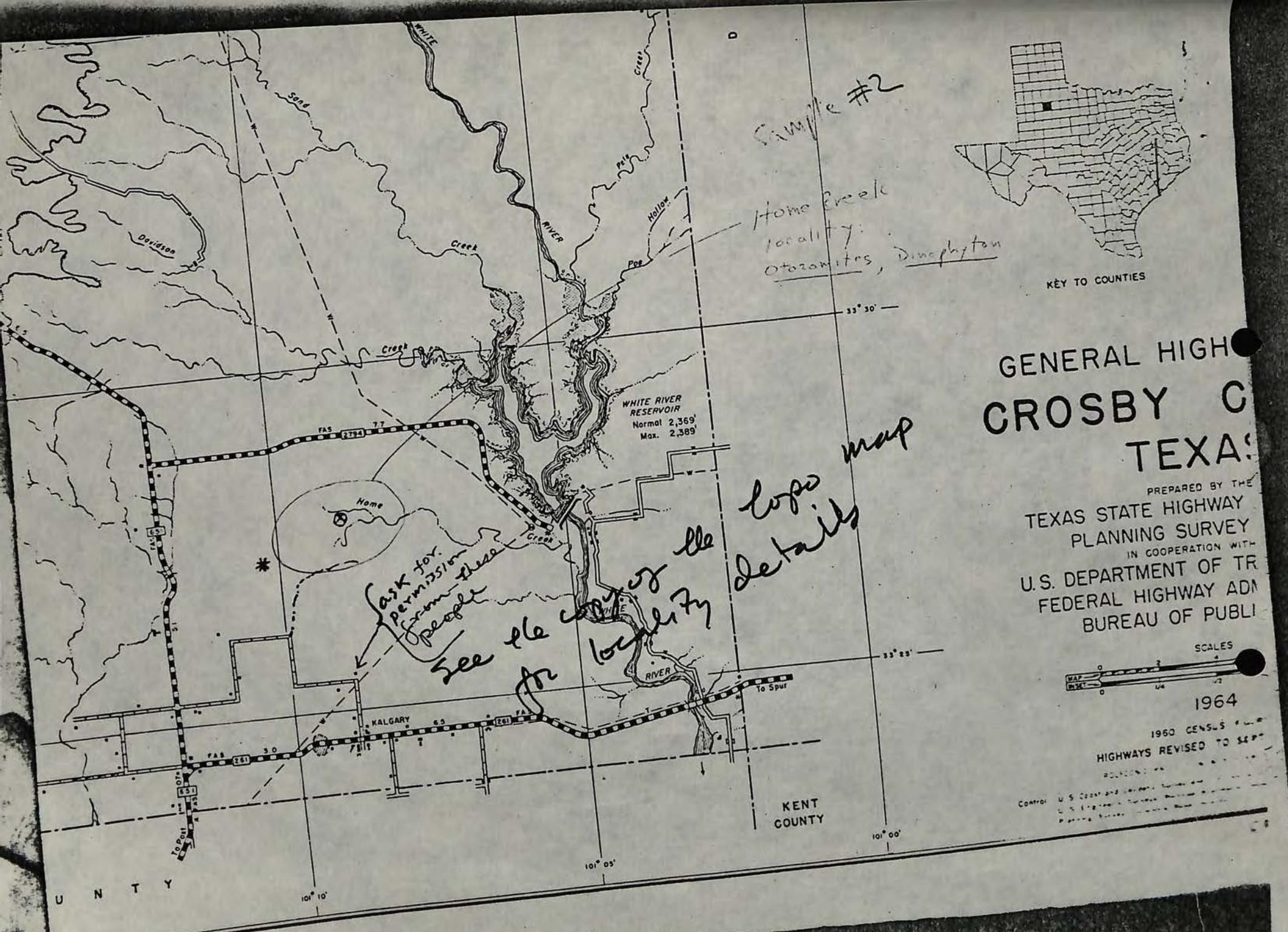




Go to this area (Sample 2)

Data, maybe looked?

Ask for permission to collect from these people

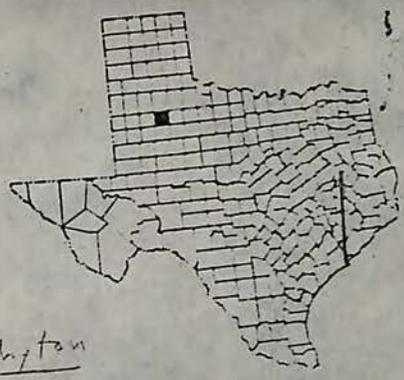


Sample #2

Home Creek
locality:
Otarionites, Dinophyton

ask for
permission
from these
people

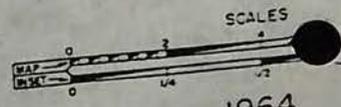
see the map for
locality
details



KEY TO COUNTIES

GENERAL HIGHWAY
CROSBY COUNTY
TEXAS

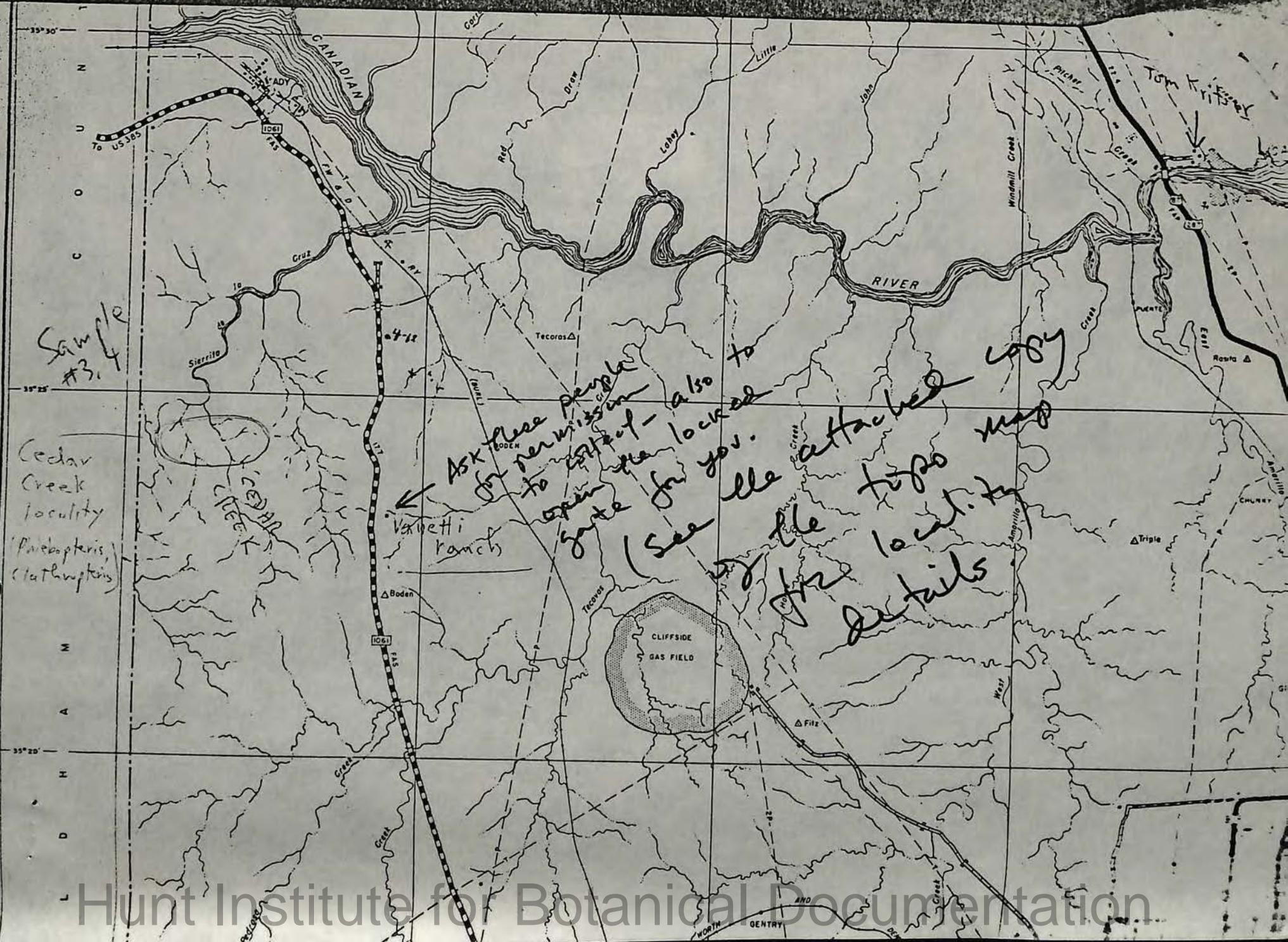
PREPARED BY THE
TEXAS STATE HIGHWAY
PLANNING SURVEY
IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS



1964

1960 CENSUS
HIGHWAYS REVISED TO 1960

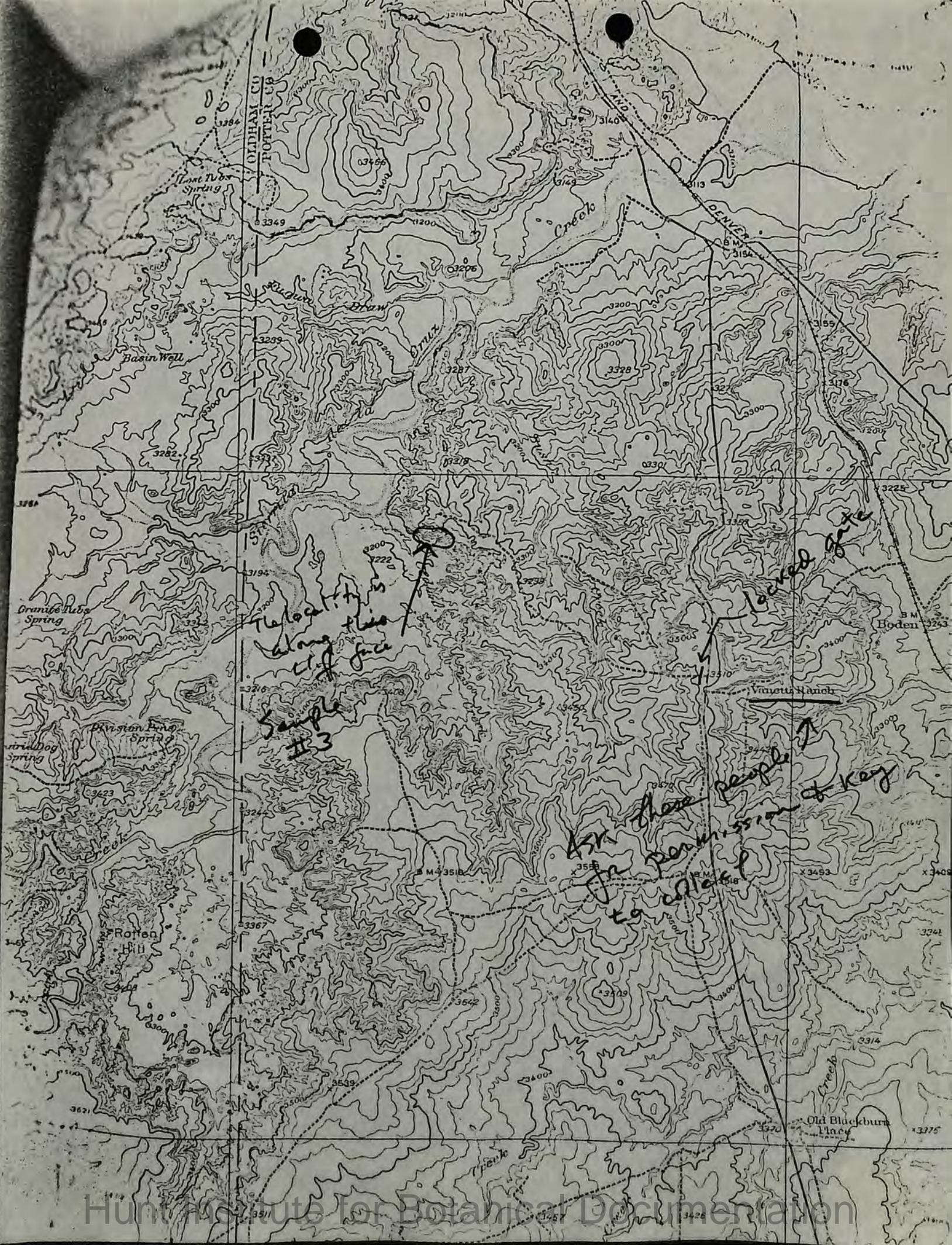
Control: U.S. Coast and Geodetic Survey
U.S. Engineers Bureau
Planning Bureau



Sample #3, 4

Cedar Creek locality
 (Pteris, Clathropis)

Ask these people for permission to cut out - also to open the locked gate for you. (See the attached copy of the topo map for details)



Locality is along this cliff face

Sample #3

Ask these people for permission to collect

Lashed face

bcc Robert Dunay

September 15, 1971

Dr. Sidney Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

It looks as if my student, Bob Dunay, and I will finally(!) be able to get into the field following the AASP meetings in Tucson in October. We are hoping to visit at least some of the localities from which came the pieces of rock which you sent me earlier in the year (your letter of 21 January, 1971). We will probably need slightly more precise directions for getting to the localities, and I am enclosing a copy of your locality list per your letter of 21 January, along with some xeroxes of maps of the regions with the request that, if possible, you indicate on the maps as precisely as possible where the localities are so that we will be able to find them in the field. (Three of the samples had good palynofloras, but we think a search for good lithology in the other places might be productive.)

Did the Fort Wingate sample (no. 10 on your list) come from the locality described in your 1969 paper? If not, I suppose we would need better directions for that too.

Can you give us information regarding the owners of the ranches for these localities, if in your judgment we would need that information for satisfactory operation in the field?

The AASP meeting in Tucson seems to be shaping up very well, with a very interesting program, and if you could find some way to get down there for the meeting I am sure you would profit. Of course, I have a selfish interest in wanting to meet you. You would probably enjoy meeting some of the palynologists who will be from all over North America. Dunay's paper might be of some interest too, but I don't think that it alone would justify a trip to Tucson. If you decide you are interested, I would suggest that you write to Gerhard Kremp at the Department of Geosciences at University of Arizona in Tucson. The meeting dates are 12-15 October. Looking forward to hearing from you, I am with best wishes

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi

Enclosures: xeroxes of maps and locality sheet

May 10, 1971

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Thanks for yours of 29 April. It was ~~pleasurèobblig~~ at the transfer slide which you sent. I think I had better comment on some of the nomenclatural questions that you raised because they are close to one of my interests, as you probably know (I am secretary of the International Committee on Fossil Plant Nomenclature, having succeeded Serge Mamay in that job). In the first place, if Daugherty's material is good enough to permit such comparison, there is no question that Equisetosporites would have to stand, regardless of its inappropriateness or undesirability. There is some discussion of this and related questions in Balme's paper in the new Kummel-Teichert volume on the Triassic. There is a question as to the validity of Gnetaceapollenites. Ephedripites is a synonym but is less equivocal as to status. We here are of the opinion that you could do a service if you could state that Equisetosporites is o.k. That would get us off the horns of the Eghedripites-Gnetaceapollenites dilemma!

Best wishes as ever.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/mdw



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

April 29, 1971

Dr. Alfred Traverse,
Professor of Geology and Biology
The Pennsylvania State University
University Park, Pennsylvania 16302

Dear Al:

Thank you for examining my transfer preparation and giving me your reaction. The preparation, your letter, and the enclosures arrived safely last week.

I am glad you agree that the pollen on the slide matches the grains described by Scott as Ephedra chinleana. Someone, and I think it was Bill Chalover in "Aspects of Palynology", later transferred the pollen to Gnetaceaepollenites. Although these authors obviously think the pollen is gnetalean, the cones that yielded the grains you saw do not look at all like any found in that group. So, I wonder, if these grains should be referred to either of these two genera or even to Ephedripites as you suggest.

At present, I propose to assign the cones to Masculostrobus or to a new non-committal genus. Peter Barnard recently restricted Masculostrobus to male conifer cones containing non-winged pollen. That might be the place for my cones if I could be sure they are coniferous. Since there is a question, I may refer the cones to a new genus.

In any case, I do not think I will transfer either Daugherty's or Scott's pollen to the cone genus. Rather, I will merely mention that it contains pollen grains resembling those described by these two authors. Just to be sure about this point, I have requested the loan of the type of E. chinleana Daugherty and examples of the material called E. chinleana (Daugherty)•Scott. I really don't think there is much doubt about them being the same.

When I examine the holotype of E. chinleana, I will try to determine if the name Equisetosporites can stand as you suggest. I do not know much about taxonomy but it seems to me that if it can stand then the grains must

Page 2
Dr. Alfred Traverse
April 29, 1971

be called Equisetosporites no matter what their affinity unless they can be assigned to an older genus such as Ephedra. Or would it be possible to set aside the name Equisetosporites if it can be shown that the name is inappropriate because the grains apparently are not equisetalean?

I would appreciate your comments about this problem.

Thanks again for your help.

Sincerely yours,



Sidney R. Ash
Associate Professor of Geology

SRA:bjs

May 3, 1971

P.S. Just got back from a 5 day trip to the Grand Canyon and find that my "secretary" finally got this letter typed. Scott has loaned me several slides showing specimens of the pollen he called E. Chukleana (D) Scott. I am sure that my grains are the same.

S.R.A.

April 15, 1971

Dr. Sidney R. Ash
Dept. of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

I am mortified that it has taken me so long to get to the transfer slide that it was necessary for you to write me about it. Unfortunately, at the moment I can't seem to turn up the letter which you originally sent me covering the slide, and I seem to recall that you asked some specific questions. I'll just have to do the best I can with what's at hand. (I suppose that your letter is somewhere between me and my filing cases, in one of the preliminary stages of being filed, or it may be buried under the large deltaic mass of unanswered correspondence and journals on my desk--which reminds me that I just finished reading with profit your recent paper in the British journal, Palaeontology. Looks like you have a life time work cut out for you in the coniferous and other gymnosperm material of the Triassic of the Southwest!)

Regarding the transfer slide--the most obvious palynomorphs on the slide, and I presume the ones that go with the organ which was macerated, is the one of which I have taken a rather poor polaroid picture and enclose it for your "edification"! It seems obvious to me that the item in question is practically identical to the item referred to as Ephedra chinleana in the paper of Dick Scott of which I am sending you a copy of the plate. For example, compare my photomicrograph with Scott's figure 17, both at about the same magnification. If someone hasn't already done it, I suppose a transfer of the species to Ephedripites should be effected.

Dr. Sidney R. Ash
April 15, 1971
Page 2

(It would be Ephedripites chinleana (Daugherty) whoever.) The only problem is the uncertain status of that genus. Gnetaceae-pollenites does not seem to me to be appropriate. I thoroughly enjoyed studying the slide and hope my tardiness hasn't discouraged you with me. The slide is enroute back to you air mail.

I have now processed three of the interesting samples you sent earlier (21-I-71). Nos. 5 and 10 have abundant spores and pollen. No. 4 is apparently barren. I am looking forward to further cooperation with you on Triassic studies.

Best wishes as always.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

AT/vsi

Enclosures: polaroid photo
copy of plate from Micropaleontology



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

March 6, 1971

Dr. Alfred Traverse
Department of Geology
Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Al:

I wonder if you could return the transfer slide
I sent you a few weeks ago.

I have just about got my report done, and I
need to make some illustrations of the material
on the slides.

I hope your work is progressing.

Sincerely yours,

Sidney R. Ash
Associate Professor of Geology

SRA:bjs

February 11, 1971

Dr. Sidney R. Ash
Department of Geology & Geography
Weber State College
Ogden, Utah 84403

Dear Sid:

Many, many thanks for the nice package of samples of Dockum and Chinle material. I have already begun processing one, and will get at the others sooner or later. The lithology of at least half of the samples looks quite promising, but I can say with a fair degree of certainty that a couple of the samples are very unlikely to contain spores. Still, with Triassic samples from the Southwest, that's a very good batting average! I will keep you informed, and I very much hope that this can work into a mutually profitable cooperation between us. Surely the fates will permit us to meet one of these days, and as you say maybe it will be this summer. Dunay, as it now stands, doesn't get back from Austria until toward the end of the summer, so I would suppose that it is more probable we will do our next dose of field work in the early fall. If so, I don't see any reason why we couldn't make a side trip to Ogden, if we fail to make contact with you in the field.

I'm glad that you got to meet Fred May, so that there is at least that tie between us. I agree that what he is setting out to do for his Masters degree on the Dakota seems quite worthwhile. I am a little frustrated not knowing the area better, but I am hoping I can do some two-bird killing on that score too when I come to see you!

Oh yes, I forgot to say that the samples arrived in beautiful shape and have now been transferred to plastic jars awaiting processing. The transfer slide of pollen has also arrived, and I will get to it as soon as I can and will write a separate letter about that.

Dr. Sidney R. Ash
February 11, 1971
Page 2

Once again, I am delighted to be in touch with you and am looking forward to working with you in the years to come. Best wishes.

Yours very truly,

Alfred Traverse
Professor of Geology & Biology

ATyvs1

Esleek

Fidelity Onion Skin

100% COTTON



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

February 1, 1971

Dr. Alfred Traverse
Department of Geology
Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

Help!

I am taking the liberty of enclosing a transfer preparation of a cone containing pollen. To my uninitiated eyes, some of the pollen looks like Cycadopites, however, other grains look almost round, not elliptical in distal view. Some of the grains seem to be "wrapped" in narrow bands of tissue. In some cases the grains, because of the bands, look somewhat like Gnetaceaepollenites.

Would you mind looking at the slide and telling me to what genus you think the pollens grains should be referred. I shall describe the cone and associated pollen in a short report that is almost finished, and I will give you credit for any determination you make. The pollen sacs and pollen disintegrate completely when they are macerated, so the only specimens I have are on transfers.

Any assistance you can give me will be appreciated.

Sincerely yours,

Sidney R. Ash,
Associate Professor of Geology

bjs

Enclosure



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

January 21, 1971

Dr. Alfred Traverse
Department of Geology
Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

I have been meaning to send you some samples from the Dockum ever since last fall. Time, however, got away from me and I have just gotten around to preparing a small package of samples from various localities in Texas. The package also contains two from the Chinle--one from a locality in New Mexico and another from Utah.

The attached list gives the locality information. If you should need more detailed data on the localities or a larger sample, please let me know. I hope some of the samples contain pollen and spores for you and Mr. Dunay to work on.

My family and I will be back in Albuquerque for the summer. While there, I expect to spend a few days in West Texas again. Perhaps, we could arrange to meet there at that time.

I had a ^{short} visit with Fred May over the holidays. I am sorry that I didn't have much time to talk to Fred about his research. What little I heard, sounds interesting. It is about time someone did work on the microfossils of the Dakota in this area.

Sincerely yours,

Sidney R. Ash
Associate Professor of Geology

bjs

Enclosures

Sample
Number

Locality and Associated Plants

1. Approximately $\frac{1}{4}$ mile east of the Baptist Church camp in South Ceta Canyon, near Canyon, Texas. Tecovas Fm. Sanmiguelia.
2. About two miles northwest of Kalgary, Texas in the headwaters of Home Creek. Tecovas Fm., about 10 feet above the Permian. Otozamites powelli, Dinophyton spinosus, unidentified seeds. Also many vertebrate remains.
3. On the north side of Cedar Creek about one-half mile southwest of its intersection with Sierrita de la Cruz Creek and about three miles northwest of the Vanetti Ranch. (See USGS Ady, Texas quad.). In the Tecovas Fm., about 34 feet above the Permian. Lots of ferns including Phlebopteris smithii, Clathropteris walkeri.
4. As in sample 3, but about 3 feet above the Permian. Unidentified plant fragments.
5. North side of Tule Canyon about 2 miles east of the Texas highway 284 about 100 feet above the floor of the canyon. Probably Trujillo Fm. Unidentified plant fragments.
6. Northeast side of Palo Dura Canyon below Fortress Cliff. A lens in the Tecovas Fm. Several unidentified conifers.
7. Floor of Palo Dura in the first big draw west of Devil's Slide. Tecovas Fm., about 20 feet above the Permian Fragmentary leaves.
8. Head of Sunday Canyon Branch of Palo Dura Canyon, Texas. Upper part of Trujillo Fm. Unidentified conifers.
9. Capital Reef National Park, Utah. Chinle Fm., unidentified conifers and Neocalamites.
10. Fort Wingate, New Mexico. Monitor Butte Mbr., of the Chinle Fm. Many undescribed conifers.

10

lett. of
21-I-71



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

September 28, 1970

Dr. Alfred Traverse
Department of Geology
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

I found your recent letter (both copies) waiting for me when I arrived here a couple of weeks ago. Mr. Dunay's trip to Australia sounds good. I do not blame him for going there and letting his work on the Triassic of Texas wait awhile.

My trip to Texas was successful as I found several new localities and collected the remains of three Chinle ferns from the Dockum. This is the first time that the Dockum has yielded any ferns at all as far as I can learn. Also I saw a specimen of the supposed Angiosperm Sanmiguelia in a museum there. I attempted to locate additional specimens of this fossil in the field, but I was unsuccessful. The material I collected is in the hands of REA. As soon as it gets here and I have time to go over the collection, I will send you some likely samples and the locality data.

If you do have a chance to come out this way, I would be pleased to show you my fossils and discuss the Triassic floras of the Southwest. As you are probably aware, Ogden is only 30 miles from Salt Lake City. If you flew into Salt Lake City I could pick you up at the airport and bring you to Ogden.

Wilhelm Bock has sent me copies of his two recent publications. He certainly has done a lot of collecting and a lot of work. I do not agree, however, with some of the "lumping" he has done and with some of his determinations. Thus, in contrast to his findings, I still believe that the Newark flora is distinct from the Chinle-Dockum flora.

Hope we will see you out here in the West one of these days.

Sincerely,

Sidney R. Ash
Associate Professor of Geology



WEBER STATE COLLEGE

OGDEN, UTAH 84403

Office of the
DEPARTMENT OF GEOLOGY AND GEOGRAPHY

President
WILLIAM P. MILLER

Dr. Alfred Traverse, Professor of Geology and Biology
Deike Building
The Pennsylvania State University
University Park, Pennsylvania 16806

Dear Al,

Thanks for your recent letters and ^{file} list showing which samples yielded microfloras.

I would have liked to have attended the meetings in Tucson, but it just wasn't practical. It would have been fun to "show off" some of my many Triassic localities in Arizona and adjacent areas to you and the other participants.

I hope you and Bob Dunay have a successful trip to the Southwest. I know you will be more comfortable as far as temperature goes in West Texas than I was when I was there last summer.

If you can drop by Ogden anytime, I will be happy to see you and discuss the Chinle-Dockum Flora.

Please tell Bob that I have received his letter and will get the information together that he asked for and send it to him in the next few weeks.

Sincerely,

Sidney R. Ash
Associate Professor of Geology



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

~~WASHINGTON, D.C. 20242~~

Post Office Box 4083
Albuquerque, New Mexico
87106

August 19, 1970

Dr. Alfred Traverse, Associate Professor
Department of Geology
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

I expect to collect Late Triassic plant fossils in West Texas starting around the second of September. If you and Mr. Dunay will be in the area during the first week or so of September I will be pleased to show you my localities.

My address will be as shown above until August 31. After that I'll be in Texas and then on to Ogden, Utah!

I hope I will see you both in Texas.

Sincerely yours,

Dr. Sidney R. Ash

July 30, 1970

Dr. Sidney R. Ash
Geology Department
Fort Hays Kansas State College
Hays, Kansas 67403

Dear Sid:

It has taken me much too long to answer yours of 20 May. I am still very interested in visiting you and talking about Triassic localities. However, our plans have changed a bit. Robert Dunay, the student who is working with me on the Triassic problem, has received a fellowship to spend some months in Austria beginning in September, and we were not under the circumstances able to schedule a collecting trip in the early fall as originally planned. I still plan to make a foray down to West Texas sometime within the next few months, but it will be without Dunay and probably will be a little less extensive than first thought. I believe it could well be justified for me to pay you a visit at Weber State in the course of that junket, whenever it comes, and I'll write you again about the possibility when and if it develops.

Interestingly, I have had a letter from an undergraduate student, Paul Lewis, who did some work on the palynology of the Chinle. He apparently lives in Provo, Utah, and does not say what his plans for graduate work are. Considering that he had (I suppose) little direction, his work on the Chinle is creditable.

Another coincidence is that I am getting a new graduate student in September who is coming here from Weber State. His name is Fred May. So, the bond between us seems to be extending a bit!

Best wishes.

Yours very truly,

Alfred Traverse
Professor of Geology and Biology

cc: Robert Dunay
AT/mrw

FORT HAYS KANSAS STATE COLLEGE

HAYS, KANSAS



May 20, 1970

Dr. Alfred Traverse, Associate Professor
Department of Geology
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

Thank you for your recent letter. I am glad to hear that our work will not conflict. Yes, I will be happy to share locality data with you and I would be very happy to visit with you. However, it may be a bit difficult to get together because I have accepted a position at Weber State College in Ogden, Utah beginning in September. We plan to leave Hays around the first of June and we'll spend the summer in New Mexico and Arizona, mainly. I now plan to collect in West Texas sometime in August. If you will let me know when you will be in that area, perhaps I can arrange to meet you there.

I will show you my localities at that time or at least tell you where they are. If we can't meet, I'll send you the locality data by mail.

During June I can be contacted at the following address:

Research Center
Museum of Northern Arizona
Flagstaff, Arizona 86001

I hope to see you this summer.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sid", is written over the typed name.

Sidney R. Ash
Assistant Professor of Geology

SRA/lcs

May 5, 1970

Dr. Sidney R. Ash
Department of Geology
Fort Hays Kansas State College
Hays, Kansas 67602

Dear Dr. Ash:

Thank you so much for your recent and very informative letter regarding your work on the Dockum Group. I am especially looking forward to receiving the copy of your paper on the Chinle flora. It was good of you to let me have one of your last copies. Doubtless we will also purchase an additional copy or two.

From what you say, it is apparent that there is no undesirable overlap between your work and ours--indeed, it looks to me as if we ought to be able to cooperate in some fashion. It could well be that you would be interested in visiting some of our localities, and I am sure we would find it interesting to visit yours if you are willing to share information with us.

I am writing to Dick Scott, who is a good friend of mine, to find out what they are doing. As far as Elsie is concerned, it sounds to me as if this is more a question of Bill's eclectic interests than any conflict that we need to worry about. Indeed, my own philosophy on these matters is that for several different people to be working on related aspects of the same problem is all to the good. The only thing about which Mr. Dunay and I were concerned was the possibility of his doctoral dissertation appearing in published form before he can submit it for his degree!

We were planning to do a little field work in northwest Texas during late August or early September, and perhaps you would be so kind as to let us visit you on our way down or back. Once again, I think that everything is to be gained from some sort of cooperation between us.

Dr. Sidney R. Ash
Page 2
May 5, 1970

I spent part of last week with one of the real "characters" of Triassic paleobotany. I suppose you have heard of him and some of his more oddball ideas. I refer to Wilhelm Bock, of Philadelphia. You have probably seen his recent book, American Triassic Floras and Global Distribution. Hoping to hear from you again, I am

Yours very truly,

Alfred Traverse
Associate Professor of
Geology and Biology

AT/mrw
cc: Robert Dunay

FORT HAYS KANSAS STATE COLLEGE
HAYS, KANSAS



April 27, 1970

Sidney A. Ash

Dr. Alfred Traverse
Associate Professor
Department of Geology
The Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Traverse:

Thank you for your recent letter inquiring about my work on the flora of the Dockum Group and for the enclosures describing your work on the microflora of the unit.

As far as my work goes I am primarily interested in the leaves and reproductive structures in the Dockum. I have no interest in dispersed spores and pollen but if I should find any fertile fern leaves I would attempt to extract spores from the sporangia and describe them just as I have done with some of the Chinle ferns. I do not have any particular interest in petrified wood unless I should find something highly unusual in the course of my investigations.

I began to collect plants from the Dockum during the early 1960's, about the same time that I began collecting in the Chinle. Until recently, however, I have concentrated my effort on the Chinle flora, but now that some of my work is in print or press I plan to investigate the Dockum flora. So far I have collected from 10 localities in the Dockum of West Texas and eastern New Mexico. The Sigma Xi grant will be used to finance more collecting in West Texas. I plan to both return to some of the old localities and to check on several new ones that friends in West Texas have located for me. If time and money permit I will also search for some other likely areas for additional localities. After I have completed my field work this summer I plan to prepare a report on my findings; hopefully it will be finished early in the fall.

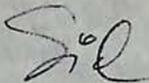
I can understand Mr. Dunay's concern as I felt the same way when I began my own work. Judging by the abstract and paper you sent me it appears that there will be little, if any, overlap as far as my work is concerned. However, I think you both should know that you are the third person to write to me and express an interest in the Dockum microflora. Personnel of the U. S. Geological Survey are actively working on the Stratigraphy of the Dockum Group and Dick Scott is studying the microflora; he has asked for samples of any likely material I come across for pollen analysis. I rather doubt whether any of his findings will be published for a few years although he might publish some of it in an abstract as his work progresses.

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Just the other day W. C. Elsik of Humble Oil in Houston also asked for samples for pollen analysis. I do not know what his plans are.

I hope this information is helpful to you and Mr. Dunay. If there is any more information you need to know about my work please write. By separate cover I am sending you one of my last copies of my principal work on the Chinle flora. If you need another copy it can be obtained from the Government Printing Office for \$1.00--that is if you don't mind waiting two or three months for them to fill your order!

Sincerely,



Sidney R. Ash
Assistant Professor of Geology

SRA/lcs

April 21, 1970

Dr. S. R. Ash
Geology Department
Fort Hays State College
Hays, Kansas 67602

Dear Dr. Ash:

Someone has called to my attention a grant from Sigma XI to you for work in the flora of the Dockum Group of Texas. This is of interest and some concern to us because one of my graduate students, Robert E. Dunay, and I have been working on the palynoflora and associated plant megafossils of several localities in the Dockum Group for the last couple of years. Actually, I began the work when I was at the University of Texas in 1965-66. Dunay and I have had one brief field season in the northwestern Texas area, investigating several localities where fossil plants occur. Mr. Dunay and I presented a paper on the preliminary results of this work at the convention last October of the American Association of Stratigraphic Palynologists. I am enclosing an abstract of that paper, plus the preliminary draft paper of the paper itself with this letter.

I suppose that there is some possibility of undesirable overlap between what you are doing and what we are doing, which would not ordinarily bother me very much, but naturally Mr. Dunay is very concerned that his doctor's dissertation might be "scooped". If this is in view, we had best know about it in the very near future. Looking forward to hearing from you soon, I am

Yours very truly,

Alfred Traverse
Associate Professor of Geology & Biology

AT:kc

cc: R.E. Dunay

Enclosures: abstract of paper
preliminary draft of paper