

Southwestern Branch
Geologic Division
345 Middlefield Road
Menlo Park, California

May 1, 1964

Miss Estella Leopold
Branch of Paleontology and Stratigraphy
U. S. Geological Survey
Federal Center
Denver, Colorado 80225

Dear Miss Leopold:

In answer to your letter of April 24, I am sending copies of the Jarbidge, Mountain City, and Owyhee quadrangle maps, with the sample numbers indicated on them. The coordinates I use in Nevada are based on the state rectangular coordinate systems; in this area, the Nevada (East) system. The 10,000-foot grid for this system is indicated on the margin of the map by dotted tick marks in black. On a 2° sheet, which is all that is available for some areas, 100,000-foot grid marks on the same system are indicated. All coordinates are measured north and east from the origin. I should think you would find it less cumbersome to record localities in this way rather than on maps that can be easily detached from the sample data. My localities are originally points on aerial photographs, and I have occasionally specified locations measured in inches and hundredths from the fiducial lines, treating these as coordinate axes for the given photograph. This system is more precise than the map coordinate system, but is useless unless a print of the same photograph used in the field can be obtained. If it can be, then a subsequent collector can generally go directly to the outcrop no matter how destitute the area may be of landmarks.

I sent you the samples listed in my April 23 letter, not because I am dissatisfied with the age determinations you sent me, which seem to me quite concordant, but because you expressed in your report some doubt that 59NC45-E and 59NC38 came from the same sequence; examination of the samples of other beds, in the 59NC45 set, should certainly find one to match 59NC38. The stratigraphic utility of these collections is as much dependent on the reliability of my sampling as on the validity of your

paleontological determinations, in which I have complete confidence. The rapid change in composition of the flora seemed to me interesting in itself; I am sorry you do not have the time to explore this matter further now, although it is of minor consequence in setting the upper age limit for the Idavada in this area. The possibility that the volcanic activity may have altered the floral composition is based on work with recent floras; such changes were noted by Griggs at Katmai and, I believe, by van Leeuwen at Krakatau. Wilcox, in Bulletin 1028-N, has summarized some of the literature on this subject. As the Mountain City area was a source area of pyroclastic material for some time, local floral changes might be expected.

As to the question in your postscript, 61NC109 may be about the same age as those you just reported on (59NC45-E); 54NC348 should be substantially younger; 59NC13 should be considerably older; the others slightly older.

Sincerely yours,

Robert R. Coats

Enclosures

cc: Director
Division
Coats ✓
Subject
Southwestern

RRCoats:mlb

REPORT ON REFERRED FOSSILS

P&S Branch, Denver Lab, U. S. G. S.
Bldg. 25, Federal Center, Denver, Colorado

Stratigraphic range: Tertiary

Kinds of fossils: Pollen & spores

General locality: Nevada

Quadrangle or area: Mountain City

Referred by: Robert R. Coats, 9/19/60

Shipment No.: SW-60-2D

Southwestern Branch

Report prepared by: Helen Pakiser and
Estella B. Leopold, 4/24/61

Date material received: 9/27/60

Status of work: Complete

Report not to be quoted or paraphrased in publication without a final recheck by the
Paleontology and Stratigraphy Branch.

Field No. 60NC174-D from uranium mine in Mountain City quadrangle, Nevada,
Nevada (E. zone) State Coordinate System N 2,581,200, E 424,800.

Your sample 60NC174-D was ground to 50 mesh, treated with sodium
hypochlorite and hydrochloric acid followed by a 5% potassium hydroxide
solution. It was then centrifuged in a heavy liquid to separate organic
materials. No plant material of any kind could be found.

Helen M. Pakiser
Helen Pakiser

Estella B. Leopold
and Estella B. Leopold

wac

Coats

REPORT ON REFERRED FOSSILS

P&S Branch, U. S. Geological Survey
501 U. S. National Museum, Washington 25, D. C.

Stratigraphic range: Miocene(?) - field
assignment

Kinds of fossils: fish

General locality: Nevada

Quad. or area: -

Referred by: R. R. Coats, 10/17/62

Shipment No.: SW-62-26,
Southwestern States Branch

Report prepared by: David H. Dunkle, 1/16/63, Date material rec'd: 11/7/62
(U. S. National Museum)

Status of work: Incomplete; reports by others will be sent later.

Report not to be quoted or paraphrased in publication without a final recheck
by the Paleontology and Stratigraphy Branch.

62NC116 (N. 3.99, E. 1.63).

These impressions of fin spines and rays undoubtedly
pertain to a teleostean fish but cannot be more precisely
determined.

The material is being returned.

David H. Dunkle
David H. Dunkle *rhk*

only

UNITED STATES GOVERNMENT

Memorandum

TO : R. R. Coats, Southwestern States Branch DATE: November 5, 1963
Menlo Park, California

FROM : Estella B. Leopold

SUBJECT: Re your shipment and note of June 3, 1960 which just arrived!

I am writing by return mail in answer to your letter and shipment of pollen material dated June 3, 1960 sent to the P&S Branch in Washington through the chief of the Mineral Deposits Branch. It just arrived this morning!

The shipment includes two samples of tuff from the Owyee quadrangle, Nevada, and an "impure" collection of powdered coal from the base of a welded tuff in the Mountain City quadrangle, Nevada. Sample 59NC123 is a sandy tuff, too coarse to preserve pollen, so we are discarding it. Sample 59NC45-E is a carbonaceous tuff, and looks promising. The "impure" coal no. 59NC79 is so finely divided that we cannot clean it before running the sample. Because the age determination of pollen floras of the late Cenozoic depend on the ratio of Tertiary relict genera to Recent genera, and since I will not be able to determine which grains are in place and which are contaminants in this sample, I do not think there is anything to learn by running it.

No locality data were given; could you send us a precise locality for 59NC45-E please?

Estella Leopold
Estella B. Leopold

Southwestern Branch
345 Middlefield Road
Menlo Park, California 94025

Air Mail

November 8, 1963

Miss Estella Leopold
Paleontology and Stratigraphy Branch
U.S. Geological Survey
Federal Center, Bldg. 25
Denver, Colorado 80225

Dear Miss Leopold:

It is unfortunate that the shipment you received Nov. 5 should have been so long mislaid, after it left my hands.

59NC45-E represents the same sequence of beds as does 59NC38, and is from the same locality D1594 as that sample, though not necessarily exactly the same bed. The two samples were collected at different times, and 59NC45-E is a part of a more systematic sample of the whole exposed section at this point, whereas 59NC38 was collected hastily when the locality was first found. I would therefore expect that the fossil floras would be essentially identical; if you do not feel inclined to proceed further with the study of 59NC45-E, I shall not feel disturbed, as I have your report of 7/31/61 on 59NC38.

Yours very truly,

Robert R. Coats

cc:
Director's reading file
Division
R. R. Coats ✓
Subject
Chron file-MP

RRCoats:bls 11-8-63

Do not copy

REPORT ON REFERRED FOSSILS

Coats

P&S Branch, U. S. Geological Survey
338 U. S. National Museum, Washington 25, D.C.

Stratigraphic range: Pliocene

Kinds of fossils: Mollusks

General locality: Nevada

Quad. or area: Mountain City

Referred by: R. R. Coats, 7/11/58

Shipment No.: MD-58-25, Mineral
Deposits Branch

Report prepared by: D. W. Taylor, 5/22/59 Date material rec'd: 7/21/58

Status of work: Complete

Report not to be quoted or paraphrased in publication without a final recheck
by the Paleontology and Stratigraphy Branch.

U.S.G.S. Cenozoic locality 21832 (58NC14). Elko
Co., Nevada. Mountain City quad. (1936) 1:62500. T. 45 N.,
R. 54 E., unsurveyed. 0.58 mi. N. 88½ E. of summit
Jenneman Peak. R. Coats, 1958.

Freshwater clam:

Sphaerium

Freshwater snails:

Bulinna
Planorbarius

U.S.G.S. Cenozoic locality 21833 (58NC15). Elko Co.,
Nevada. Mountain City quad. (1936) 1:62500. T. 45 N., R. 54 E.,
unsurveyed. 0.69 mi. S. 63° 35' E. of summit Jenneman Peak.
R. Coats, 1958.

Freshwater snail:

Stagnicola

Land snails:

Vertigo
Vallonia n. sp.
cf. Succinea

These two collections are correlative with others from
the Salt Lake formation in Rockland Valley, Idaho, made by W. J.
Carr and Don Trimble. The species of Bulimna, Planorbarius,
and Vallonia are known surely only from deposits in southern
Idaho and northernmost Nevada, probably of middle Pliocene age.

D. W. Taylor
D. W. Taylor

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D. W. Taylor
D. W. Taylor

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

April 23, 1964

Miss Estella Leopold
P & S. Branch, Denver Lab.
Bldg 25, Federal Center
Denver 25, Colo.

Dear Miss Leopold:

I have your most interesting report on SW-83-10D. The startling change in composition of the flows in the two samples D1594 and D3278, both part of a conformable sequence, only about 30 feet thick, and largely of volcanic material, is difficult to account for. If you think it worth while, I could go back and resample the exposure in detail. I have samples of the various beds in the exposure, of which 59NC45-E represents but one, the highest that has any organic material. Below it are in sequence going down, 45-F, -G, -H, -I, -K, and -L. These represent 14.6' feet, but the lowest bed does not have its base exposed. I am having these mailed to you; after you examine them perhaps you will be better able to decide whether resampling is worth while. Of course, there is the possibility that confusion of labels has occurred in 59NC38, but this is most unlikely, since I have collected so few samples that have any possibility of having organic material.

Is there a possibility that the volcanic eruptions might have been responsible for the extinction of some of the genera missing in 59NC45-E, and present in 59NC38?

Sincerely yours,

Robert R. Coats
Robert R. Coats

omitted: too coarse

P. S. The locality you have is correct.



IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER 25, COLORADO
Paleontology and Stratigraphy Branch
Building 25

G:P&S:EBL

April 24, 1964

Mr. Robert R. Coats
Southwestern States Branch
U.S. Geological Survey
345 Middlefield Road
Menlo Park, California 94025

Dear Mr. Coats:

A report on one of your earlier shipments is on its way. I am sorry in being slow to get these out to you, but as you know our backlog on service work is considerable in the pollen lab.

I am writing to ask for precise locality information for the 5 samples of shipment SW-63-8D (carbon enclosed) and for SW-62-6D which includes 61NC109 and 55NC70. For the former shipment we have no information whatsoever, and would appreciate receiving quadrangle map copies with these plotted. For the second, we have map coordinates but am not sure how your coordinate system works. Would you be so kind as to mark maps for both sets? We prefer to have this type of information sent in with the samples, so we don't have to write a memo asking for this every time we find fossils.

Thanking you for your cooperation, I remain

Sincerely,

Estella B. Leopold

Estella B. Leopold

Enclosure

PS- just received your April 23 letter - saying you are sending 5 more samples from the same volcanic beds that we now have 2 samples from. I do not feel that I can undertake intensive study of your unit at this time because of many other commitments. I will be glad to look these 5 samples over (with out preparation) when they arrive, but cannot schedule their preparation for a good while, due to our responsibility to other geologists who sent material in up to 2 years ago!

age
PS. What's the relation of these specimens to the volcanic beds I just reported on?

Rec'd June 1963

SW-63-8D

Geologic Division
Southwestern Branch
345 Middlefield Road
Menlo Park, California

June 5, 1963

Miss Estella Leopold
P & S Branch
Geological Survey
Federal Center
Denver 25, Colorado

Dear Miss Leopold:

I am sending the following samples of Tertiary tuffs, hopefully pollen-bearing, from the Jarbidge, Owyhee, and Mountain City quadrangles, Nevada:

55NC75	Miocene(?)
55NC76	Miocene(?)
54NC348	Pliocene
55NC80	Miocene(?)
59NC13	Miocene(?)

Yours very truly,

Robert R. Coats
Geologist

✓ cc: Packing, P & S Branch,
Washington, D.C.

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338 U. S. National Museum, Washington 25, D.C.

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D. W. Taylor
D. W. Taylor

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Quaternary (Q) ————— Pleistocene (P) ————— Pliocene ————— Miocene ————— Pliocene ————— Eocene-Oligocene —————

