

June 6-1912

Dr. G. F. Black
Chicago Ill.

Dear Doctor Black,- The State Society meets here this 20th of this month and I am trying to get my data on the Brown Stain into shape to present and wish to report to you progress since I last wrote you.

You will doubtless remember that I characterized the coal camp Pictou as the worst place I had yet seen and I succeeded in getting the mine water analyzed and you will find it in another sheet in a table with other analyses which I will describe forthwith.

Before doing so I will call attention to 1425.7 solid parts per million of water and to the high % of H_2SO_4 in table of constituents. This would make a glass of that water .006 % sulphuric acid which I am informed is high.

In the table of compounds notice that over 900 parts of the 1400 are sulphates.

In an examination of the schools at Louisville Calo. in April we found the Lawson children who presented the typical enamel lesion. These children all had it and were born & raised on the home ranch about 3 miles out of town. We went out there & talked with the mother & found a well in the yard that had been the only source of water

supply and the State Chemist analyzed it. The result is shown in the table. Notice here the high % of sulphates & bicarbonate salts.

The % of children at Lewisville actually native within the town limits presenting the lesion was low & the water supply was from one of the Boulder creeks right from the melting snows of the main range.

On the way to the next town Lafayette^{Ind} I passed a country school (District No. 61) & found ^{that of} the children native to the district were so % had the lesion. These children were all from the nearby ranches & well water was the only source of supply.

Coming to Lafayette, most of the work was in going into stores around town interviewing native adults who were known to have the stain. We found some extremely bad cases & invariably they were natives who had been raised on well water before the town had put in a system.

The Scholes family was notable among these. There were several grown children who were employed in different stores about town & all had as typical cases as I have ever seen.

We went to the home & took water from the well which had been the supply during their childhood & long before the city system was put in & the analysis is given in the table.

Note again the high % of sulphates & bicarbonate

salts.

The present generation of children in the school, since the city water came, which is from the same creek that supplies the sister town Louisville, has only a low % of the lesion which perhaps can be accounted for by a low contamination, at various times, of well water or in other words a special history for these cases which of course is very hard to get.

The neighboring town of Erie know to have the lesion but have not formally examined there.

These three towns are all coal mining towns and the soil has a large mixture of shale. The same holds true of Pictou and also of Chandler another coal mine about to be described.

Chandler is a coal camp in an entirely different part of the State and the native children are in a high degree afflicted. Like Pictou the domestic water supply is from the mine and the analysis appears in the table. Here again appears to be a high % of sulphate & bicarbonate salts.

A large surrounding territory of scattering population devoted to coal mining is without question afflicted.

Also certain territory around the neighboring town of Canon City has endemic areas but population so scattering as to make it not

Easy to get reliable data.

The last column in the table is water from a well which we know positively to be in mineral territory, and you can study the contrast.

I am unable just now to give you the full analysis of the Colorado Springs water as our chemist failed to compute the SO_4 constituent and we know now that it is important but he promises it for me in a few days & I will send it to you to fill in on the enclosed table.

There are areas surrounding Denver that have scattered foci of endemicism & I am told by the chemist of the Denver water Co. that the well water around Denver is "rotten."

I have written a brief description of the stain to Prof. Erastus G. Smith of Beloit Wis. & enclosed the same table & asked his opinion of these waters. He is a noted water expert and I am waiting his reply with a great deal of interest.

I can imagine your surprise and interest when I tell you that I have succeeded in locating an area in Virginia where exactly the same lesion exists. The town is Franklin and its location is south of Norfolk in a strip of land about 10 miles wide between two fresh water rivers.

The enclosed copy of a letter will convince you I am sure and Dr. Arthur sent me the excised crown of an incisor that proves it beyond doubt.

I am in communication with him now and am expecting some water from him for analysis.

I shall follow up this line with him as far as possible.

I have still another surprise for you in saying that I have also run down another clue that establishes another similar area in the vicinity of Naples

Italy - and will refer you to the Dental Cosmos for March 1902 under the heading "Chiccia Teeth."

One of my townsmen a physician now in Europe went to the suburb Pozzuoli at my request and writes me that the condition is the same and he knows it when he sees it.

I have written two men in Italy regarding it but have not received a reply as yet and I am afraid they will ignore it.

When he returns here I may succeed in getting in touch with some one who will look into it.

There are but few remaining places in this State that seem to require visiting and if I can get the proper interpretation of what data I have on hand and will have I think enough to arrive at some conclusion before long.

I have been wondering how you are feeling and
beg to wish you a pleasant summer season, assuring
you that if your footsteps are turned in this
direction we will be mighty glad to see you.

Very Sincerely Yours

Frederick S. McKay