

miles long and from half a mile to a mile wide. At the place first examined the banks were chiefly sand with a pebbly beach. We proceeded about half a mile westward. Here the whole shore was strewn with broken rock and fossil remains. These were the debris of an escarpment some thirty feet high, sloping back from the lake, covered with a dense growth of shrub and underbrush.

From the cliff, fragments of the coarse grained sandstone of considerable size were found mixed with the sandy drift which lay on top of the cliff. The remains were evidently of the Cretaceous Age. The cliff had at one time been an oyster bed, and numerous specimens of the genus *Inoceramus* were found. No fossil wood was observed, and although the fossils were comparatively numerous the species were limited to few forms. A thorough examination of this exposure would likely be well rewarded by the discovery of some interesting fossils.

PENSE STATION.

Here I had the pleasure of examining some boulders of great interest. At this place the drift is very thick. A well has been bored 400 feet and solid rock not yet reached. About three miles from Pense Station on Section 30, Township 16, Range 22, west of the second meridian, a well was dug this summer on the farm of J. H. Poyser, Esq., which has attracted considerable interest. When about 35 feet below the surface, a large oval-shaped stone of a somewhat gray color was encountered. There were no external indications of its being fossiliferous. Too large to handle, a sledge was given to the digger who found to his surprise that with but a comparatively slight blow it broke into many pieces, and revealed an innumerable quantity of most beautiful shells. At the time of my visit many had been carried away, but I secured some six varieties, consisting of one exceedingly beautiful *Ammonite* about three inches in diameter, bearing two rows of tubercles with distinctly marked sutures of the septa, and the shell in a highly nacreous condition. One *Baculite* two inches in length, one rare univalve with highly sculptured shell, and three varieties of bivalves, most of which belong to the genus *Ostrea*. The stone, large portions of which I examined, seemed to contain cavities not unlike what are observed in older rocks bearing quartz crystals, seams filled with a yellowish mineral substance also appeared, and these, no doubt,

rendered the boulder so easily broken. The matrix which contained the fossils when compared with the cretaceous limestone of the Rocky Mountains, appears to be much the same in physical characters and chemical composition.

This boulder removed far from its parent rock, had likely been transported during the Glacial period when an immense river of ice carried fragments of rock eastward and left them upon the prairies hundreds of miles from where they were *in situ*.

These fossils are remarkable, not only for their numbers, but also for the beautiful condition in which they are found, more nearly resembling the pearly shells of modern seas than the remains of mollusks extinct for ages. Some of these formed a portion of the society's exhibit at St. John and Boston where they were greatly admired.

This isolated fossiliferous boulder indicates that there is a rich fossil field somewhere along the eastern border or summit of the mountains west, where shells, characterized by great beauty, are likely to be discovered.

About six feet above this stone another boulder not quite so large was found. This was much harder than the former, a reddish color and somewhat of a granular nature. One surface was well polished and distinctly marked with glacial striations.

This closes a description of the various outcrops visited during my trip to the gory, and from what has been placed before you for consideration, one can readily infer that our Northwest Territories offer great inducements for geological investigation, and will for many years afford great attractions to the members of this society who are inclined to work in the department of science.

The results of my visit to the places referred to in this paper may be summarized as follows:

SEVEN MILES WEST OF CALGARY—LARGE DEPOSITS.

Impressions of leaves belonging to genera *Protophyllum*, *Corylus*, *Alnus*, *Platanus*, *Populus*.

Univalve shells of the genera *Caudofoveata*, *Bulinus*, *Planorbis*, *Viviparus*.

Bivalve shells of the genus *Unio*.

MEDICINE HAT—CRETACEOUS DEPOSITS.

Petrified wood and coal.

Bivalve shells 200 feet below the present level, largely of the genus *Ostrea* and undetermined species.