

SIXTH INTERNATIONAL WILLISTON BASIN SYMPOSIUM

--Randy Burke

The Sixth International Williston Basin Symposium and the Fourth Saskatchewan Petroleum Conference were held in Regina on October 7-9, 1991. Registration for the Symposium was approximately 214 and for the Petroleum Conference about 135. The first joint meeting of the geological and engineering societies proved to be successful, with participant access to concurrent oral and poster technical sessions of both societies programs. Presentations about Saskatchewan's successful horizontal drilling play in Mississippian strata and source-rock identification by geochemical oil typing were highlights of the technical programs. A kilt-clad bagpiper playing a traditional tune led the head table procession into the luncheon where Dr. Bill Fyfe gave an enjoyably stimulating and informative talk about energy, the global environment, and geologists' future role with regard to these issues. Many good comments about both the core and the horizontal drilling workshops were frequently overheard.

Symposium Proceedings volumes are

a primary source for Williston Basin geology. Coeditors J. E. Christopher and F. M. Haidl have produced another hallmark volume. Registrants received their customary copies of the Symposium Proceedings that includes papers on most of the oral and poster presentations. Hardcover volumes of the Proceedings are available from all three of the sponsoring Societies (Saskatchewan Geological Society, North Dakota Geological Society, and Montana Geological Society). The Proceedings volume includes 33 papers and 3 abstracts contained within 312 pages. Subjects are grouped in the areas of stratigraphy and field studies, tectonics and geophysics, and geochemistry and geohydrology.

The entire event proved successful in every way. Dr. Don Kent, the General Chairman, the Saskatchewan Geological Society, the host society, and all the organizing committees, including those of the cosponsoring geological societies in North Dakota and Montana, continued their tradition of presenting a high quality regional meeting.

RESTORATION OF THE HIGHGATE MASTODON SKELETON UNDERWAY

--John Hoganson

During preparation of the North Dakota Fossils exhibit last February, Chris Dill, Museum Director, Mark Halvorson, Curator of Collections and Signe Snortland, Archeologist with the State Historical Society, ushered me into a back room in the Heritage Center to show me a fossil they were considering using in the new First People in North Dakota exhibit. The First People exhibit, which will debut at the Heritage Center next summer, will focus on life in North Dakota from about 9,600 BC to 1738.

Packed in a crate, was an almost complete, well-preserved lower jaw of a mastodon, one of the Ice Age elephants. I was asked if I thought that the specimen would be an appropriate addition to the exhibit. We know that Paleoindians hunted Ice Age elephants for food and clothing, and I concurred with them that including remains of one of these animals in the exhibit would not only be appropriate, but also highly desirable. Chris Dill, and other members of the Historical Society, recalled that more of the skeleton was stored

in crates in the Society warehouse. Mark Halvorson and I ventured to the warehouse to assess the completeness and preservation of the remainder of the skeleton. To my surprise, it seemed like most of the skeleton was there. When weather permitted, Mark and I hauled the crates of bones into the Heritage Center for further assessment (fig. 1). The skeleton was found to be about 95% complete and remarkably well preserved.

Members of the First People exhibit planning committee decided to restore the specimen as a full skeletal mount to be a permanent part of the First People exhibit. I was commissioned to be in charge of the restoration. This is the type of cooperation that the Geological Survey and Historical Society were seeking when we entered into the cooperative agreement that I wrote about in the last Survey Newsletter. It is appropriate that the first restoration of a fossilized skeleton of a large extinct animal ever to be exhibited

in North Dakota will be the result of cooperation between the Geological Survey and the Historical Society and that that skeleton will be displayed at the Heritage Center.

Mark Halvorson recently uncovered the incredibly fascinating history of the Highgate Mastodon skeleton. The following is a summary of Mark's findings. In the spring of 1890, William Regcraft found the bones while digging a ditch on his uncle's, John Regcraft's, farm near Highgate, Ontario. William Hillhouse, a hardware merchant from Shelburne, Ontario and his uncle, John Jelly purchased the right to excavate the bones from the Regcrafts. A crew was hired to excavate the bones and a photographer, C. Gambles, from Ridgetown, Ontario photographed the excavation (fig. 2). After the bones were removed, they were cleaned and "sized" with hot, white glue. The only tusk found, a "perfect beauty", was apparently dropped and



Figure 1. Part of the disarticulated skeleton (vertebrae and leg bones) of the Highgate Mastodon with Mark Halvorson, Curator of Collections at the Heritage Center.



Figure 2. Photograph of the Highgate Mastodon excavation in 1890.

broken at that time and Hillhouse had it "built up and attached solid to a box" (fig. 3). The remainder of the bones were also placed in custom-made chests at that time.

From 1890 to 1892, Hillhouse and Jelly displayed the bones in Ontario. One of the teeth in the upper jaw was stolen in Galt, Ontario sometime during that period. It was during that time that Hillhouse and Jelly hired R. A. Essery at \$50 a month to take the bones on the road for display. Essery headed for Winnipeg and other points West. He died somewhere out West and Hillhouse and Jelly lost track of the bones. Hillhouse apparently received a handbill, similar to the one in figure 4, from his niece from Neche, North Dakota in 1892 describing a travelling exhibit of a mastodon collected by Jelly, but now managed by people by the name of Thompson and Glover.

Around 1893 the bones ended up in storage at the Bibb Broom Corn Company in

Minneapolis. Here the bones were abandoned and were sold to Harry Dickinson, a Great Northern Railway fireman, to recover some of the storage costs. Harry shipped the bones by rail to his father, C. E. Dickinson, living in Barnesville, Minnesota. The Dickinsons exhibited the bones in Moorhead, Willmar, St. Cloud, and other towns in Minnesota and South Dakota in 1895 and also in Buxton, North Dakota in 1896. At that time, James Grassick, a physician from Buxton, apparently saw the show. In 1898 the mastodon was exhibited in Minneapolis.

Later in 1898, James Grassick bought the skeleton from the Dickinsons for \$10 and they shipped the bones to Grassick via Great Northern (the shipping bill was \$27.84). In 1902 Grassick loaned the skeleton to the University of North Dakota for display. An interview about the mastodon with M. A. Bramon, curator of the UND museum, appeared in the Grand Forks Herald that year. Hillhouse heard that the specimen was now at

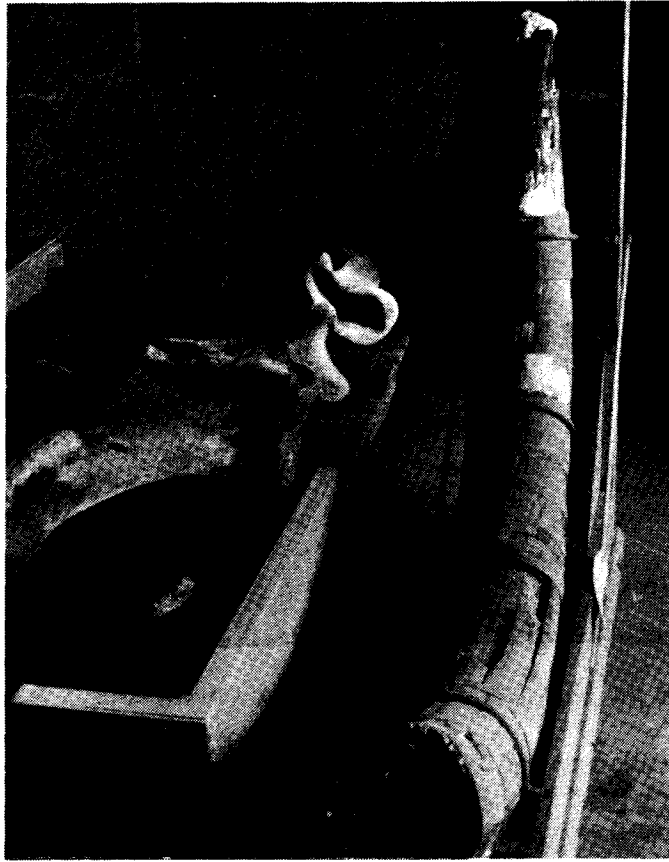


Figure 3. The solitary tusk recovered during the Highgate Mastodon excavation still in its original (1890) packing crate.

UND and wrote a letter to the University president laying claim to the mastodon. Hillhouse's attorney, John Douglas from Shelburne, Ontario wrote that "there is not the ghost of a doubt that the bones with cases were and are the property of Mr. Hillhouse". In the meanwhile, A. E. Morrison, secretary for the UND Board of Trustees informed Grassick that "legal advice to me has been to the effect that in case the railroad (Bibb Broom Corn Co.) made proper legal procedure in the sale of this property, your title to same is complete and final." Grassick quickly sold the mastodon to UND for \$100. A few days later an attorney for Robert J. Jelly and Simon Jelly executors of the John Jelly estate, W. A. Stewart from Brockville,

Ontario, wrote to Grassick claiming the bones on behalf of his clients. Grassick informed the Jellys that he no longer owned the mastodon.

The specimen fell into obscurity until 1947. That year, Elwyn B. Robinson, history professor at UND, wrote a letter to Russell Reid, Superintendent of the State Historical Society, stating that a "partial mastodon skeleton" had been removed from the rafters of Macnie Hall. The mastodon was transferred to the State Historical Society, was shipped to Bismarck and ended up in the rafters of one of the Historical Society's storage buildings at Fort Lincoln. It was apparently rediscovered in 1974 and was moved to a new storage facility. The crates of bones were



Figure 4. Handbill advertising the World's Greatest Wonder, the Highgate Mastodon.

removed from storage by Mark Halvorson and myself in March, 1991 and the lower jaws were placed in the North Dakota Fossils exhibit at the Heritage Center in February, 1991 (fig. 5).

At this time, we have very little scientific information about the specimen. We know that it was collected in southern Ontario, but we do not know how old it is. We are considering sending a piece of bone from the interior of one of the legs to a laboratory for radiocarbon dating. Apparently, the only article that was written about the find was by a Canadian scientist in 1891. I am currently trying to obtain that article. We believe that the skeleton is from a young, perhaps about 25 to 30 year old, adult male animal because

of the size and shape of the tusk and arrangement of the teeth. This animal was over 20 feet long and stood about 10 feet tall at the shoulder.

Reconstruction of the skeleton began in November. Because my experience in fossil skeleton restoration is minimal, we decided it was necessary to bring in an expert as a consultant for the project. Dr. George Lammers, curator of geology at the Manitoba Museum of Man and Nature in Winnipeg, has been involved with several Ice Age elephant reconstructions and is working with us on the project. John Campbell, a UND student who worked for the Survey last summer as a paleontological technician, will also be working with me. Many volunteers have

already taken part in the project and many more will before the project is completed. We will have to fabricate two leg bones, the tusks and much of the skull. The main challenge will be restoration of the skull, which is in poor condition (fig. 6). We are currently working on the individual bones--cleaning them, hardening them with an epoxy-like preservative, and repairing the broken parts with wire mesh and plaster. The final phase of the restoration, during which the bones will

be assembled, will take place next summer. Gary Just, Artistic Iron Works in Bismarck, will be working with us at that time to construct the frame for the skeleton.

Funding for restoration of the mastodon skeleton is being provided by Mr. Marv Erdmann, President of Super Valu Retail Support System, through the North Dakota Heritage Foundation.

Figure 5. Beautifully preserved lower jaws of the Highgate Mastodon. From front to back is about 3 feet.

