

Unearthing Alberta's Past: Rocks Fossils, and Heavy Equipment



Chris Jass and Peter Milot



Presentation Outline

- Ice Age Fossils in Alberta
- Significance of Ice Age fossils
- Working *with* Sand & Gravel operations



Alberta's Ice Age Fossil Record

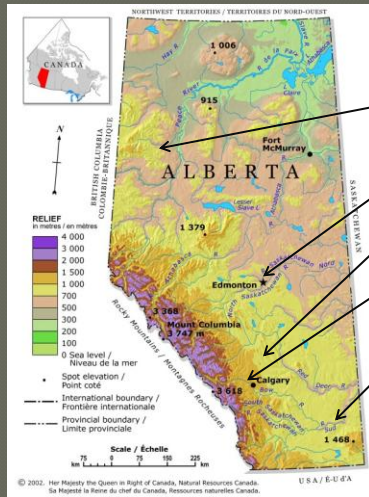


- > 22,000 years ago (Preglacial)
- ~ 10,000 year gap when ice is present
- < 12,000 years ago (Postglacial)

Sources of Ice Age Fossils



Where From?



- Peace River Country
- N. Saskatchewan River
- Hand Hills
- Bow River
- S. Saskatchewan River

Character of the Deposits



- Fluvial (i.e., laid down by rivers)
- Thin distribution of fossils
- Fossils rarely seen until quarry operations begin (vs. archaeology)
- Large mammals

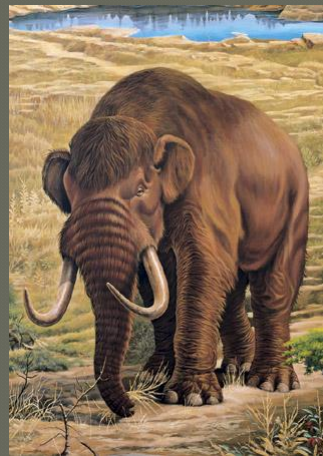
Given those characteristics....

WITHOUT THIS



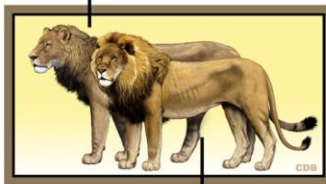
WE DON'T SEE THIS



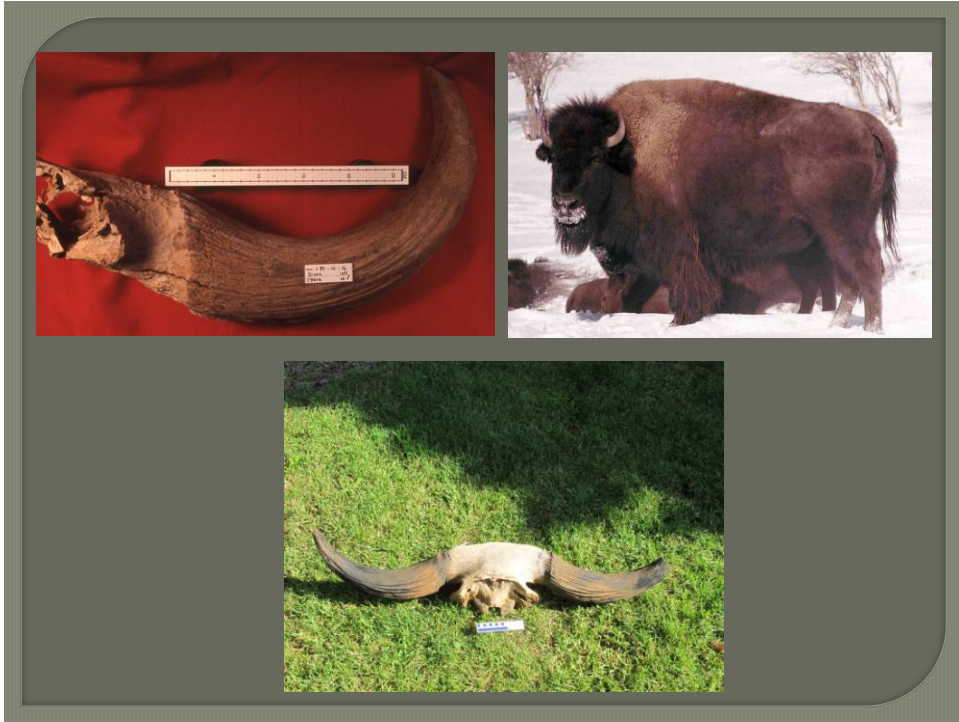




North American Lion (*Panthera leo atrox*)



Modern African Lion (*Panthera leo*)





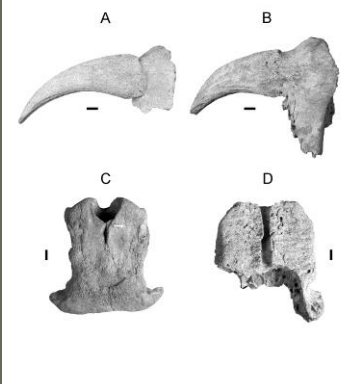
Why do the fossils matter?

Description of fossil muskoxen and relative abundance of Pleistocene megafauna in central Alberta

Christopher R. Joss, James A. Burns, and Peter J. Milt

Abstract: Muskoxen were the only large ungulate that has become extinct in North America. They are the only large ungulate that has been found in the fossil record of central Alberta. Their abundance in the fossil record of central Alberta is compared to that of other large ungulates, and their relative abundance is compared to that of other large ungulates in the fossil record of central Alberta. The relative abundance of muskoxen is compared to that of other large ungulates in the fossil record of central Alberta. The relative abundance of muskoxen is compared to that of other large ungulates in the fossil record of central Alberta. The relative abundance of muskoxen is compared to that of other large ungulates in the fossil record of central Alberta.

Introduction: The muskoxen (Cervus moschatus) is a large ungulate that has become extinct in North America. They are the only large ungulate that has been found in the fossil record of central Alberta. Their abundance in the fossil record of central Alberta is compared to that of other large ungulates, and their relative abundance is compared to that of other large ungulates in the fossil record of central Alberta. The relative abundance of muskoxen is compared to that of other large ungulates in the fossil record of central Alberta. The relative abundance of muskoxen is compared to that of other large ungulates in the fossil record of central Alberta.



Presenting Alberta's Prehistory



Exhibits and Outreach



Our Role

- ◉ Research, collection, and preservation of historic resources
- ◉ Outreach
- ◉ Museum Exhibits
- ◉ Industry Resource



Finding and reporting fossils to us ***does not*** mean your operation will be shut down!

Evaluating Significance

99.999999999%

0.000000001%



The Barrhead Leader

December 21, 2010



- **3,000 year old bison skull discovered in gravel pit**
- **Keephills Aggregate boss gives bones to Edmonton's Royal Alberta Museum**

An Open Invitation...

- to you and your employees to visit the museum and learn more about what we do.
- to ask us to participate in outreach.
- to call us if you have questions or concerns regarding fossils from sand & gravel operations.



Acknowledgements

- Teri Muhlbeier
- Alberta Sand & Gravel Association

