

# Black Hills Institute

of Geological Research, Inc.



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J. Brian Duggan

Room 4843

Office of International Energy and Commodity Policy

Department of State

Washington, DC 20520

Dear Mr. Duggan,

This letter is in response to Public Notice 6422 published in the Federal Register /Vol. 73, No. 214 / Tuesday, Nov. 4, 2008, page 65713. Black Hills Institute is diametrically opposed to the Presidential permit for construction of the Keystone Pipeline XL. The proposed route of the pipeline crosses literally hundreds of miles of fossiliferous horizons. Probably the most important of these is the terminal Cretaceous aged Hell Creek Formation conformably overlain by the Tertiary Fort Union Formation and its equivalents. This is one of the few areas on Earth that preserve a terrestrial record of the KT (Cretaceous – Tertiary) Boundary and the great Extinction Event. This record offers probably the best opportunity to study rapid and catastrophic **climate change**.

The proposed Keystone Pipeline crosses important historic (i.e. the excavation sites of at least 3 *Tyrannosaurus rex* skeletons), prehistoric (i.e. Petroglyphs and lithic artifact sites and teepee ring sites), as well as unexcavated (but known) and undiscovered paleontological sites. In addition the proposed pipeline route is in the proximity of Sage Grouse breeding and nesting areas as well as known predatory bird nesting sites. These concerns have not been appropriately addressed in an Environmental Impact Statement or Mitigation proposal, thus the appropriateness of this pipeline is in question. I urge that a Presidential permit for the Keystone Pipeline XL be denied.

Respectfully submitted,

Peter Larson, President BHIGR

c.c. Hon. Hillary Clinton, Hon. Stephanie Herseth Sandlin, Hon. Tim Johnson, Hon John Thune

Elizabeth Orlando  
OES/ENV Room 2657, Department of State  
Washington, DC 20520

13 April 2009

Ms. Orlando,

The following are additional comments on the scope of the Environmental Impact Statement (EIS) concerning the Keystone XL Pipeline Project and its intended path through Eastern Montana and Western South Dakota:

As the proposed Keystone XL pipeline route crosses through Eastern Montana and Western South Dakota it also crosses through some of the most important Upper Cretaceous aged sedimentary rocks on this planet. Nowhere on earth is the terrestrial record of the K/T Extinction event as well preserved as it is on the proposed route. The fossil record across the boundary preserves not only the record of the extinction of 70% of the life forms then present on the earth, but also the record of the climate changes that followed the asteroid impact. This record provides a chance to study climate change and extinction as it applies to the effects humans are having on our planet.

As President and Paleontologist with Black Hills Institute I am certain that important fossils will be destroyed or damaged as a result of this pipeline project. Black Hills Institute has been working in this area, collecting and preserving fossils, for more than 30 years. We have worked closely with the ranchers in the region, who are always concerned about, and act responsibly when considering, their paleontological resources. In order to give you some idea of the density of known sites, I've attached a map of a portion of one of these ranches identifying some of the known sites along the path of this proposed pipeline. Three of the sites on the pipeline route are figured specimens of *Tyrannosaurus rex*, and a fourth site is a recently described new genus and species of horned dinosaur. There are certainly many times that number of sites yet to be discovered in this same area that will be disrupted, damaged, and destroyed, should this crossing and pipeline be approved.

To give you some idea of the scientific value of these resources, the United States Congress has just passed (and the President has signed) "The Paleontological Resources Preservation Act of 2009". In so doing, Congress provides Felony penalties for destruction, damage or unlawful collection of these resources (in particular vertebrate fossils) from public lands. These important fossils do not lose that scientific value simply because they occur on private land. There is also a significant commercial value to these fossils. Values of dinosaur skeletons often surpass \$1 million dollars in the market place.

The only way to avoid destruction of these important resources is for the pipeline route to bypass any exposures of the Hell Creek Formation. Excavation with large earth moving equipment is not conducive to the discovery of paleontological specimens. Equipment operators do not have the training to recognize these objects and, in fact, are working too distant to even spot the fossils. It would, likewise, be impossible for a trained paleontologist to see the majority of specimen and to stop the operation before great damage or complete loss might occur. There is no way to avoid this situation if the Keystone XL pipeline is to cross the USA - Canada border at the chosen crossing.

There is a reasonable alternative to permitting this second crossing of the International Border by Trans-Canada and Conaco-Phillips. The Keystone XL Pipeline could follow the route of the already permitted Keystone Pipeline, through Eastern North and South Dakota. This could save impacting the additional 1300 linear miles of property, most of it privately owned, virgin prairie. This would also avoid the additional and unnecessary disruption of wildlife, habitat, fragile soils and water reservoirs. I strongly recommend denying to Keystone XL pipeline border crossing.

Respectfully Submitted,

Peter Larson  
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