

## Picket Wire

A group of friends from our church took a 4-hour trip to La Junta in southeastern Colorado and stayed overnight in order to take a tour of the Picket Wire site on Saturday morning, May 16. Access to this location in the Comanche National Grassland area is restricted to tours by national government guides of the Forest Service in the Department of Agriculture. Reservations are required and the number of attendees is restricted. The Picket Wire site is described as the longest exposure of dinosaur tracks in North America, if not in the world.

The site is on the Purgatoire River, but English-speaking settlers had difficulty pronouncing the Old French name and corrupted the name to “Picket Wire”. Visitors need to come in their own 4-wheel drive vehicles because of the rugged dirt roads. The tops of the broad canyons are of a hard Dakota Sandstone Formation. The valley bottoms have softer layers of shales and some hard limestones. Trees are juniper and pinon evergreens.



The Purgatoire River and Picket Wire dinosaur track site is in the right photo. The landscape was unusually green because of abundant recent rain.



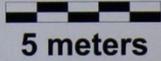
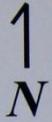
Our first stop was to look at petroglyphs: rock art scratched into the dark “desert varnish” coating of the lighter sandstone rocks by native Americans many hundreds of years ago.



Nearby was a large hollow rock in which people could stand in the hole. Below was the river.



# DINOSAUR LAKE The Purgatoire Valley Dinosaur Tracksite (north bank)



↘ tridactyl print

● sauropod track

r - ripple marks

S # - sauropod trackway

T - theropod trackway

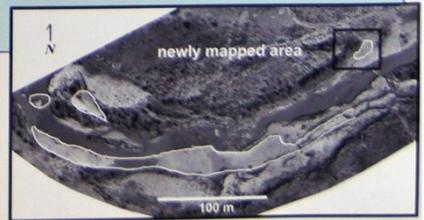
Perhaps the largest dinosaur tracksite in the world, the Purgatoire Valley site is best known for compelling evidence of herding behavior in sauropod dinosaurs in the form of parallel trackways. The 150 million year old trackways are preserved in Jurassic age limestone beds along what was once a muddy shoreline of an ancient lake.

Since 2010, public volunteers along with staff of the US Forest Service have been busy unearthing and recording new tracks at this famous locality. The 'new' tracks are actually re-buried portions of the site covered by modern gravel deposits over past centuries as the river migrated southward. Naturally excavated by erosive power of the Purgatoire River, over two hundred individual tracks have been re-revealed and recorded, including 5 (so far) parallel trackways of sauropod dinosaurs. Sauropods were giant plant-eaters with long necks, perhaps best known by animals such as *Apatosaurus* (aka *Brontosaurus*). These newly re-revealed tracks provide the best evidence yet of herding behavior in sauropod dinosaurs, and differently sized tracks reveal the sauropod herd included adult and juvenile animals traveling together.

Three-toe carnivore tracks (~*Allosaurus*), which in some cases parallel and over-print the sauropod tracks, provide opportunity for speculation about predators pursuing the sauropod herd.



**new dinosaur tracks !**



Picket Wire Canyonlands  
**DINOSAUR**  
Tracksite

## The Site from the Sky



The neatly fractured blocks you see along the river are the result of "jointing"—when hard but brittle limestone buried deep in the earth is stressed to the point of breaking.

Some layers of limestone show clear trackways of sauropods while others are heavily trampled with many overlapping footprints. The large, rounded prints of these big plant-eaters show that they were generally lumbering west along the lakeshore, often in groups or herds.

**F**rom the air, you can see the tracks of two sauropod dinosaurs walking side by side along the ancient lakeshore. The discovery that some types of dinosaurs lived in large herds like modern animals happened because of parallel tracks identified here in the 1930s.

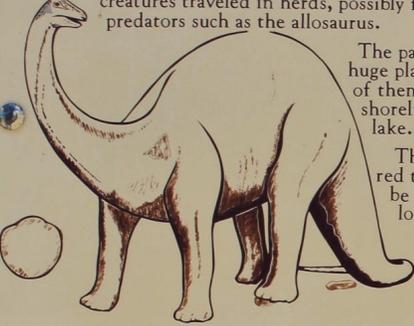
**T**racks of meat-eating dinosaurs radiate in all directions, indicating that carnivores roamed the lakeshore as solitary hunters. Large carnivores are generally less common than large plant-eaters but roughly equal numbers of footprints occur at this site. Perhaps meat-eaters were faster and more active than plant-eaters?

**R**esearch continues to unfold the intriguing story of ancient life at Dinosaur Lake.

The large tracks here in the limestone rock reveal how these ancient creatures traveled in herds, possibly for protection from fierce predators such as the allosaurus.

The parallel footprints of these huge plant-eaters suggest several of them traveling west along the shoreline of a large, shallow lake.

These dinosaurs, now referred to as Apatosaurus, grew to be as large and heavy as a loaded semi truck.



**Brontosaurus**  
"THUNDER LIZARD"  
HEIGHT 14.5' at shoulder  
LENGTH 70'  
WEIGHT 33 TONS

The sharp claws of the three-toed Allosaurus sank into the mud as it hunted along the edge of the lake, possibly stalking a herd of larger brontosaurus.

The allosaurus, a stocky meat-eater equipped with massive head and strong jaws was a feared predator during the Jurassic Period, 150 million years ago. This extinct Colorado resident inhabited the semi-arid lowland that is now the Purgatoire River Canyon.

These beasts stood nearly two stories high and weighed four tons.



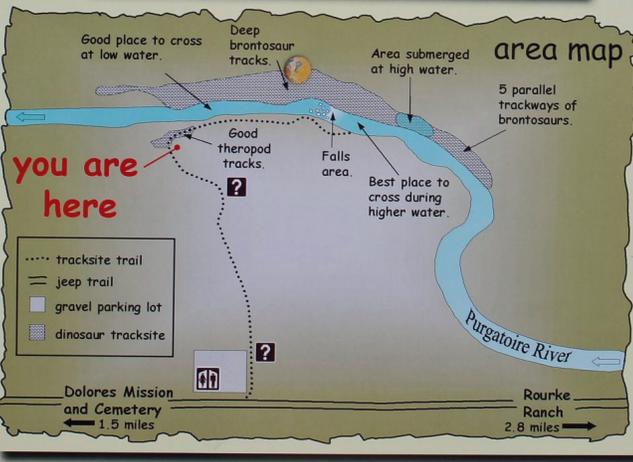
**Allosaurus**  
"DIFFERENT LIZARD"  
HEIGHT 16.5'  
LENGTH 25'  
WEIGHT 4 TONS

### YOU HAVE ARRIVED at the largest dinosaur tracksite in the World!



- Use caution when crossing the river, bottom can be slick, and the current may be swift seasonally.
- The trackway surface is fragile. Do not ride bikes or horses on the site. Do **NOT** pour plaster into the prints.
- If you came here to see live dinosaurs, you are 150 million years too late!

**Picket Wire Canyonlands**  
*El Rio de Las Animas Perdidas en Purgatorio*  
'The Valley of Lost Souls in Purgatory'



**area map**

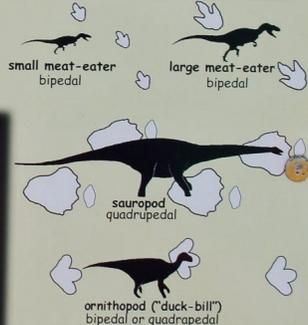
Good place to cross at low water. Deep brontosaurus tracks. Area submerged at high water. 5 parallel trackways of brontosaurus. Good theropod tracks. Falls area. Best place to cross during higher water.

**you are here**

Legend:  
 - - - tracksite trail  
 — jeep trail  
 □ gravel parking lot  
 ▨ dinosaur tracksite

Dolores Mission and Cemetery 1.5 miles  
Rourke Ranch 2.8 miles

### Look for tracks like these.




COMANCHE

U.S. Department of the Interior  
Comanche National Grassland  
Caring for the Land and Serving People

These are signs at the headquarters and at the track site itself. About half of the people on our tour used the high water crossing to view the tracks on the other side, wading in quickly flowing water about 30 cm (1 foot) deep. I

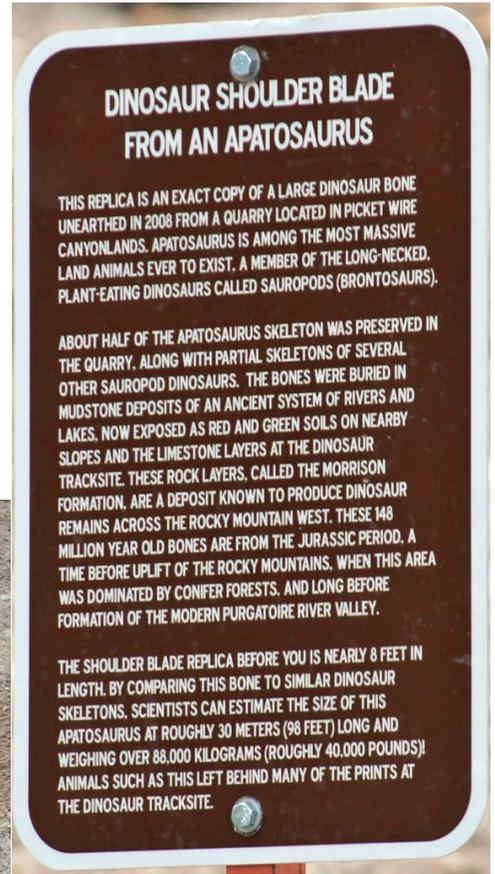


did not cross the water. Next are photos of track types and trails of them. Note left-right order of footprints.





At another location we saw this sign and the large copy of a dinosaur bone found elsewhere in the area.



We visited the ruins of an old church and its graveyard.



Rock Wren, singing from rocks, treetops

There is a saying, "When it rains, the desert blooms!" With all the recent rain there was an abundance of flowers. I will start with three varieties of cactus and then show many flower varieties.





dead stems of the branching cactus

Colorado has a variety of terrains. The Gunnison trip report showed the mountains and high meadows. Eastern Colorado is mostly flat in comparison but has areas of minor canyons as shown here. Both have enjoyable beauties in different ways.

Ed Holroyd  
19 June 2015