

# The McKittrick Tar Seeps

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The McKittrick Tar Seeps are a significant part of the history of Indian and Spanish culture, the oil industry, and paleontology in the state of California. The seeps are the most extensive asphalt or "brea" deposits in the state. They are located in the foothills of the Temblor Range, just west of the town of McKittrick in Kern County. The seeps are exposed in a narrow band over a distance of about four miles. They occur in Upper Miocene, Pliocene, and Pleistocene sediments adjacent to the McKittrick Thrust Fault.

Local southern San Joaquin Valley Yokut Indians were the first humans to exploit the McKittrick Tar Seeps. Asphaltum collected from the seeps was used for both economic and practical purposes in pre-Spanish California. These Indians used the unrefined tarry substance for water-proofing, as an adhesive, and decorative purposes. There is also evidence they traded the asphaltum to other tribes.

Following the 1859 discovery of oil in the eastern United States, San Joaquin Valley pioneers attempted to make a commercial venture of extracting and refining asphalt from active seeps. As early as 1861, or as late as 1864, John Hambleton and Judge Lovejoy began digging pits as deep as ten feet. They tunneled into veins of asphalt a few inches wide and also mined oil rich sediment. These pits and tunnels were the first of the McKittrick "oil mines". They carted the cargo to two nearby "refineries". These distilling units converted the natural asphalt into kerosene and lubricating oil.

Hambleton and Lovejoy's attempts at refining McKittrick oil were not financially successful, and they suspended operations in 1867. As oil became a more important commodity other operators commenced efforts to refine the asphalt in the late 1800s. Shafts were sunk and tunnels were constructed. Oil miners worked in extremely difficult conditions. Miners were subjected to flammable, toxic and often hot conditions in tight dark quarters. Miners in the deeper shafts usually worked without clothes.

One of the problems noted in the 1890s was that refining stills had to be cleared occasionally of animal bones. The first paleontologic studies of fossils from the McKittrick Tar Seeps occurred between 1900-1910. This was when McKittrick, Cymric, Midway-Sunset, and other west side oil fields were first discovered. Beneath the seeps, better quality oil was often found. After a new road cut through the seeps was constructed in 1921, the first major paleontologic study began. University of California teams worked throughout the 1920s. Another major effort by the Kern County Museum, Los Angeles County Museum, and California Institute of Technology began in 1949. As of 1968 forty-three different mammals (twenty now extinct) and fifty-eight birds (nine now extinct) had been identified. Among these creatures are bison, deer, camel, elephant, wolf, saber-toothed cat, and smaller mammals. The bird remains found at the seeps are dominated by

shallow water varieties such as ducks, herons, storks, and other shore birds. Additionally, many insects continue to be recovered, particularly beetles and flies.

Most fauna have been recovered from the Pleistocene Tulare Formation.