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## Cement Operations in Nebraska

R. R. Burchett

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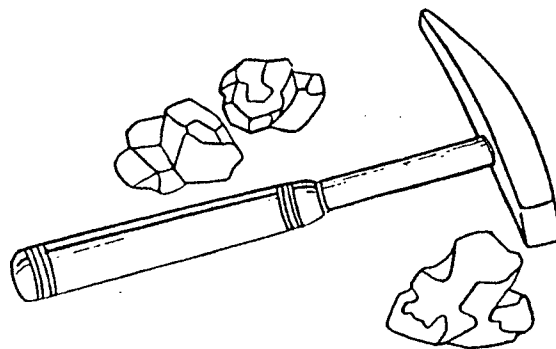
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# NEBRASKA GEONOTES

## *CEMENT OPERATIONS IN NEBRASKA*

Raymond R. Burchett



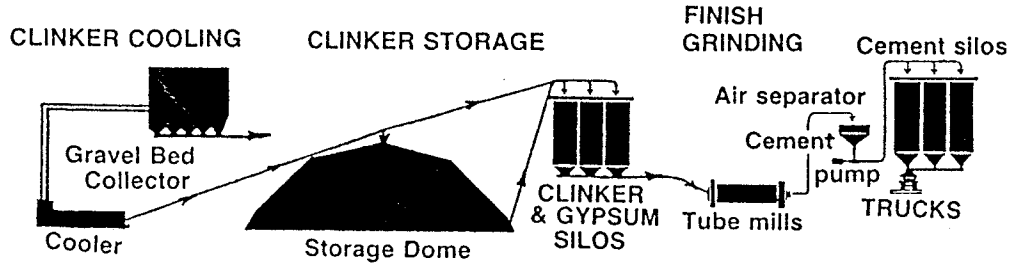
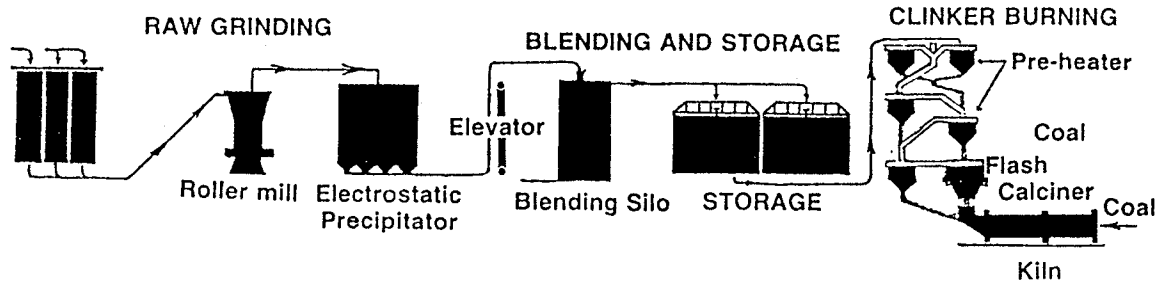
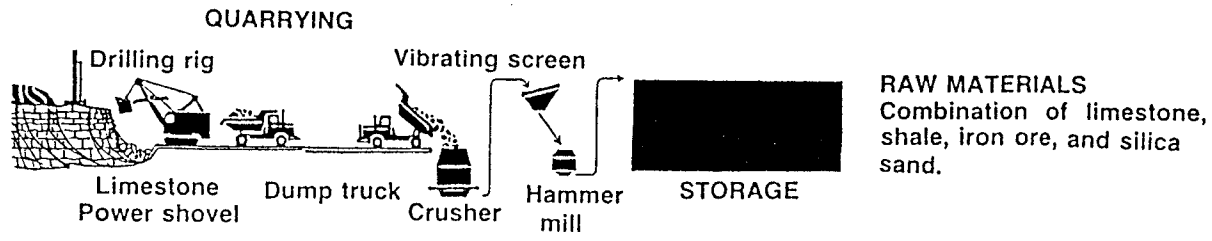
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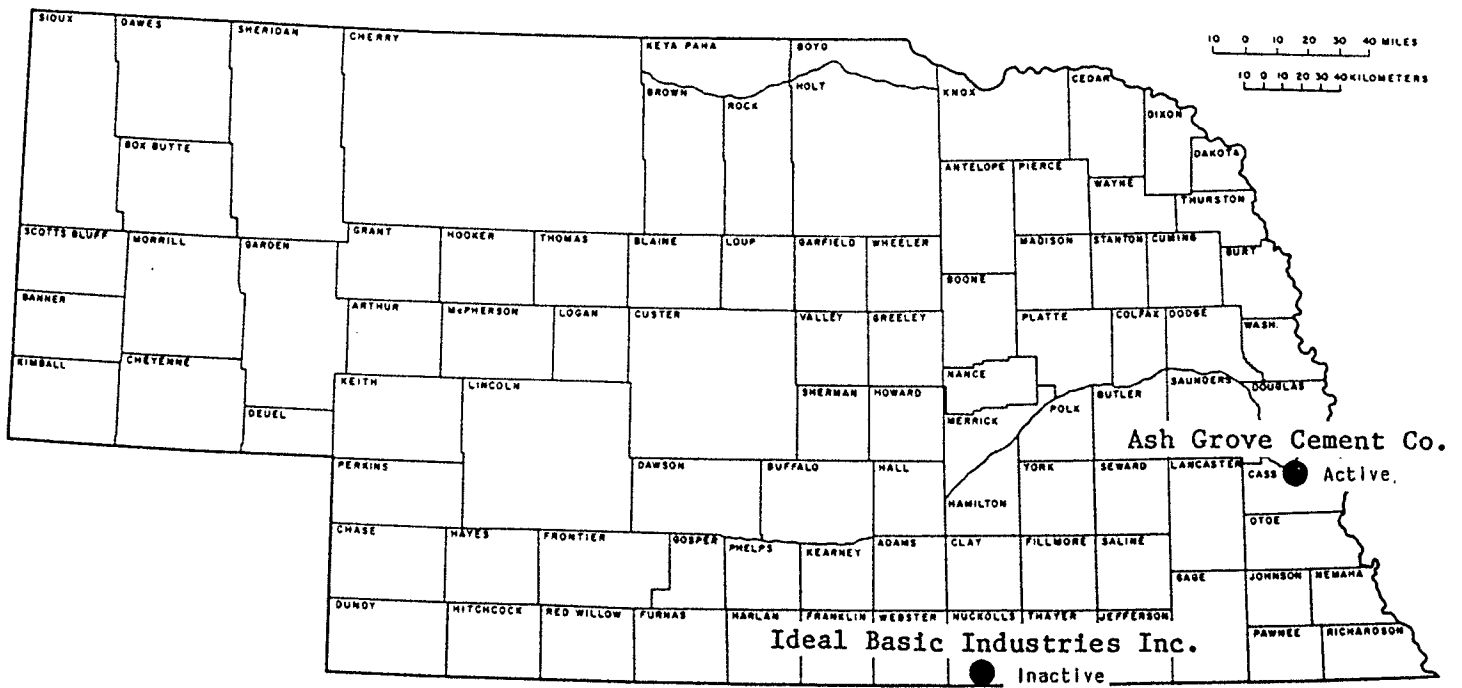


May 1991





GENERALIZED DIAGRAM OF CEMENT MANUFACTURE



LOCATION MAP OF CEMENT PLANTS IN NEBRASKA

CEMENT OPERATIONS IN NEBRASKA  
Raymond R. Burchett

Cement is a substance that when mixed with sand and gravel or limestone aggregate, and water becomes hard like stone and is called concrete. Portland cement is a hydraulic cement having properties that allow it to harden under water. It consists of a controlled mixture of lime, silica, and alumina, and it forms clinkers when burned in a rotary kiln. The clinkers then are ground and mixed with gypsum. Portland cement was patented by Joseph Aspdin of Leeds, England, in 1824 and the name "portland" was chosen because the hardened cement resembled a building stone quarried on the Isle of Portland off the southern coast of England.

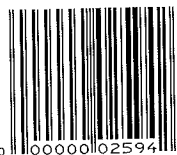
Established in 1873 near Beatrice, Nebraska, the first commercial cement plant in the state used limestones and shales of Permian age. It was forced to close several years later. Several cement plants operated between 1873 and 1913 but they were small and short lived. In 1913, a cement plant at Superior, Nebraska, used Niobrara Chalk and Carlile Shale of Cretaceous age. This plant continued to operate until 1986, when it became inactive. In 1929, another plant was established at Louisville, Nebraska. It uses limestones and shales of Pennsylvanian age and clays of Cretaceous age. This plant has been modernized several times and is still operating.

Construction is the most important and principal use of cement. It is used to make pavement, join bricks together, and poured into forms to build walls. Production of both masonry and portland cement has increased over the last few years and the value of cement accounted for approximately one-half of the total non-fuel mineral value in Nebraska.

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