

Underground Storage



As a result of pursuing and establishing underground storage, Laclede has been able to add the equivalent of 230,000 residential heating customers who would not otherwise have been served.



History:

Through the late 1940s, as was standard practice among local gas companies, Laclede provided manufactured gas to the residents of the St. Louis Metropolitan area. The manufacturing process typically consisted of the gasification of combustible materials, almost always coal, but also wood and oil.

In 1946, Laclede announced a conversion to straight natural gas immediately upon completion of a new interstate pipeline that would connect to its existing distribution system. At that time, there were approximately 2,273,000 separate burner tips in the service area that had to be adjusted. All were completed by the end of November 1949.

The introduction of straight natural gas allowed Laclede to expand services and, more importantly, remove the source of much of the local pollution. When residents updated to natural gas heating systems, the air in the city became visibly cleaner within a decade.

Once Laclede started taking delivery of straight natural gas, the Company faced a dilemma ... more heating customers wanted natural gas in the winter than could be accommodated by pipeline deliveries. The solution was simple. Laclede would need to take delivery of substantial quantities of supplies during the summer off-season and store it for use during the peak demand season of winter.

Studies indicated that underground storage, if it could be developed near St. Louis, would provide the best solution. The potential storage reservoir identified by Laclede is located in an area of northern St. Louis County. In geological terms it is known as an anticline - rock layers shaped like a huge overturned saucer or dome. The reservoir consists of porous sandstone layers lying beneath layers of leak-tight cap rock. After extensive exploration and research, the Company began development. The initial injection of natural gas in to the underground storage reservoir began on December 2, 1955.

- Laclede's storage reservoir is recognized as one of the first aquifer storage facilities. The sandstone used never held gas before – only salt water from prehistoric seas.
- The storage reservoir is located under a 13,000 acre area in St. Louis and St. Charles counties. About 4,000 acres are underlain with gas.
- Forty-two injection withdrawal wells and 33 observation wells are currently in operation.
- Three 660-horsepower, three 880-horsepower and one 4,000-horsepower compressors are currently in use.
- Injection pressure into the St. Peter Sandstone ranges up to 630 pounds per square inch.
- The largest daily withdrawal in the history of the reservoir occurred on January 15, 1972 – 440 million cubic feet.
- A mined out underground propane storage cavern with a capacity of over 32 million gallons was completed in July 1972 ... offering the equivalent of nearly 3.0 billion cubic feet of natural gas.