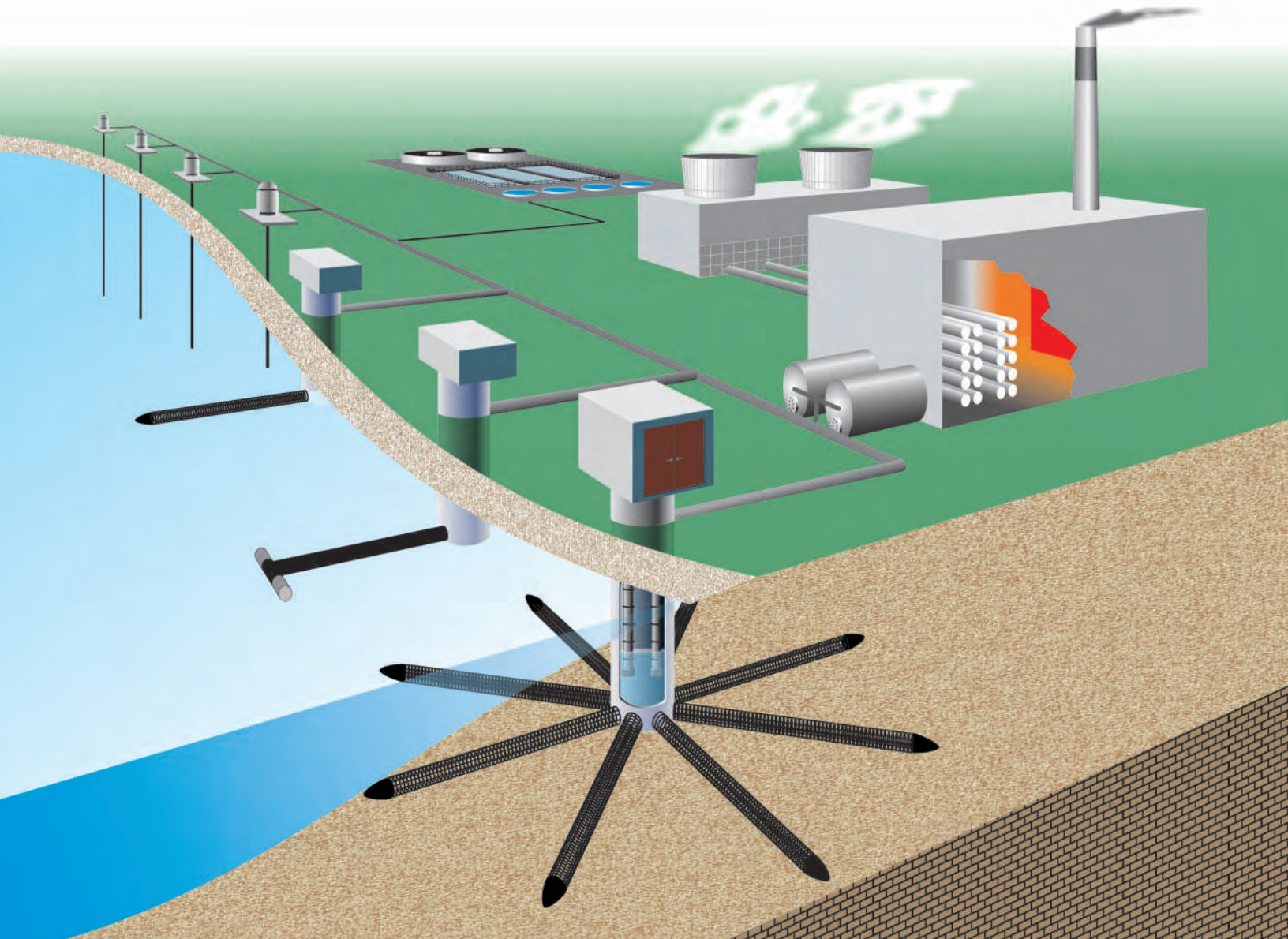




# Water for Energy Producers

Layne Christensen Company

**Experienced • Equipped • Committed**

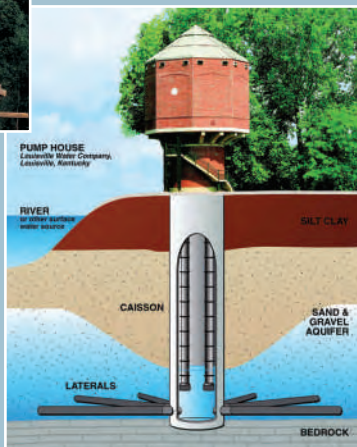


# What sets Layne Christensen apart in the largely "me-too" water resource industry?

How about 125 years of experience in high-capacity water production? That's also 125 years of customer satisfaction.

While we're fully equipped to locate and develop water resources across the country, with our knowledge of specialty water treatment processes and state discharge permitting requirements, we can provide your facility with water and wastewater treatment systems and pipelines configured to your unique infrastructure needs.

We're committed to the energy industry. Beyond water resources, our expertly-staffed and well-tooled 40,000 square-foot manufacturing facility offers the power industry large-scale fabrication capabilities for key process components.



## Water Supply Identification

The identification of a productive, sustainable, high quality water supply is critical to the proper siting of any power plant. However, groundwater sources are becoming increasingly difficult to locate, permit, and develop. Layne combines state-of-the-practice investigative techniques with an understanding of the regulatory framework to develop vital groundwater sources.

Our hydrogeologists and engineers can perform detailed feasibility studies to identify the highest quantity, and best quality, source of water for your facility. We will review available internal records and public documents to develop a preliminary understanding of your water supply options. Next, we engage the local and state regulatory agencies to determine the specific permitting requirements for development of a water supply.

We will develop a site specific investigation program to collect aquifer data and recommend a location for a test well. Using state-of-the-practice geophysical techniques or focused test hole drilling programs, we can design and implement an aquifer characterization program to determine site specific, sustainable well yields and design specifications for your site.

## Development

Water supply development requires the integration of engineering and hydrogeologic sciences with the art of well construction. This combination is the basis for Layne's success in producing high capacity, high efficiency, quality installations.

For more than 125 years, Layne has developed professional engineering and project management methods that merge design, construction and development into a cohesive operation. From specifying the correct pump to water treatment and distribution equipment, we offer clients complete services for equipment supply, installation and maintenance.

With our Ranney® Collector Well technology, we are experienced in developing groundwater and surface water supplies from radial collector wells, vertical wells, infiltration galleries, seawater collector wells and intakes. These systems are cost efficient and environmentally sound.



## Water Reuse & Alternate Sources

In water-challenged locations, gray water (secondary or tertiary treated wastewater effluent) may provide an ideal, readily-available, low-cost source of feedwater.

Layne Christensen Company can design and construct the pipelines and integrated membrane filtration systems needed to convert wastewater effluent into an ideal source of high quality feedwater.

## Purification

With our range of experience in membrane and filtration treatment systems, Layne engineers have been developing practical approaches to system design for clients throughout the United States and internationally.

In addition to our innovative automated treatment solutions, our ability to perform key processes in-house, combined with practical experience in construction and start-up of treatment facilities, provides a high degree of control over project cost, quality and schedule.

In all areas of water treatment, our engineers, fabricators, and field service technicians recommend and implement appropriate, cost effective solutions to all water quality issues.

Our capabilities serve power customers from concept to completion. We offer complete turnkey installations of any type of water system, providing single-source responsibility.

- Membrane Filtration - UF/NF/RO
- Pressure Filtration - Ion Exchange, Adsorption, Catalytic and conventional

## Pipelines

Through the acquisition of Reynolds, Inc., Layne has become one of the nation's leaders in large diameter pipeline installation and utility maintenance.

## Fabrication

From membrane and filtration treatment skids to chemical feed systems, Layne offers fabrication solutions for a variety of clients' unique requirements. Layne's new 40,000 square-foot fabrication facility is designed and tooled to handle virtually any industrial fabrication challenge in support of the power industry.

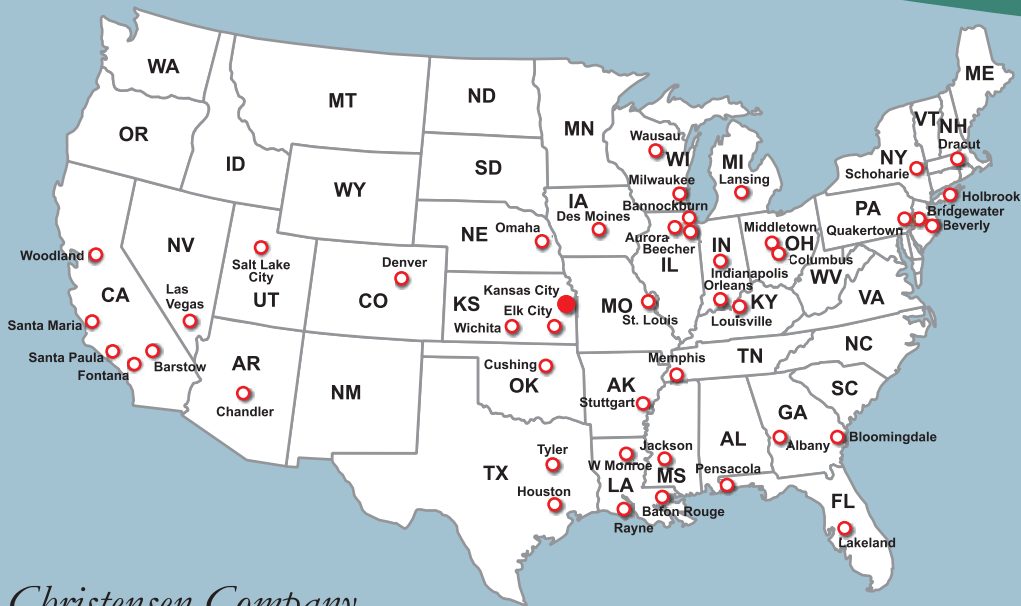
Services and capabilities include:

Machining - Mills, lathes, vertical turret lathes, horizontal boring mill and more. A detailed equipment list is available upon request.

Fabrication - Welding to meet customer requirements. Positioners, 14 x 30 foot weld manipulator, break, shear, and CNC burn table.

Inspection - AWS/CWI weld inspection, level II liquid penetrant and magnetic particle testing in compliance with ASNT SNT-TC-1A.





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**Reynolds, Inc.**

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