IN BRIEF:

SITE/LOCATION:
Dickinson, ND
The Bakken shale subsurface formation in the Williston Basin.
Williston Basin: 475 miles of sedimentary basin in eastern Montana, western North and South Dakota, and southern Saskatchewan; area known for rich deposits of petroleum and potash.
Bakken: a rock unit that is the subsurface of the Williston Basin that is capable of generating of oil.

PROBLEM:
North Dakota oil riggers needed a cost effective pump with material construction that could handle saltwater exposures without corroding and be able to transfer the fresh and saltwater into suction lines for disposal by Positive Displacement pumps.

SOLUTION/FEATURES:
Burks Regenerative Turbine
- High-head, low-flow
- Life-Lok® External Adjustment the pump pressure may be adjusted when necessary to match critical system requirements without changing the flow rate.
- Available in base mounted
- Cost Effective

Durable Material Construction
- Cast iron casing and suction strainer with stainless steel screen
- Copper alloy impeller with monel blades

CRANE®
PUMPS & SYSTEMS

Applications & Systems

Burks® Regenerative Turbine Withstands Salt Water Application

North Dakota Oil Rigs Find Comfort in Burks

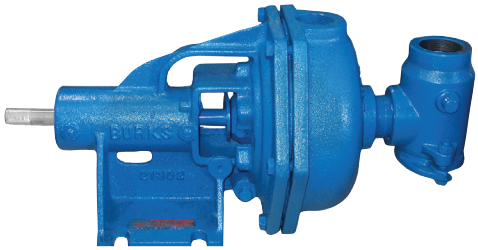
Oil and gas are found in shale rock formations, such as Bakken, in areas of North Dakota that are part of the Williston Basin. The rock formations also contain saltwater. It is necessary to fracture and crack the rock formations to get to the oil and gas. Under high pressure the rock formations will crack, and sands are added to fill in the fractures, which allows the oil to filter into the horizontally drilled hole and be pumped to the surface.


PUMPING UNIT

The oil, gas and saltwater mixture are brought to the surface by the Pumping Unit. The saltwater and oil are then separated and a Burks Regenerative Turbine pump transfers the saltwater down a pipe line to a central battery or disposal well for injection down hole. In the past, plunger and end suction centrifugal pumps were used to transfer the saltwater from the holding tanks to the pressure tanks. The expensive repairs, replacements costs and inefficiency of the pumps encouraged oil companies to look for an alternative method. They needed an efficient, economical, low pressure pump that could withstand saltwater exposure.


TREATER SHACK

Crane Pumps & Systems in partnership with Dickinson, ND distributor, Pump Systems, introduced several local oil companies to the Burks Regenerative Turbines. The pump is designed with a cast iron casing, suction strainer with stainless steel screen, and a copper alloy impeller with monel blades. The Burks Regenerative Turbine's cost effective materials of construction and capability to pump low volume and high pressure makes the pump the right fit for the application.


BURKS EC SERIES BASED MOUNTED REGENERATIVE TURBINE

In an average year, Pump Systems sells 214 Burks Regenerative Turbines into oil field applications.