

## Rockline Industries - Manufacturing Line Expansion

*A success story of supply chain sustainability*

Booneville, Arkansas Plant

Project Duration:

Mfg Lines 1-4: 10/'09-3/'10

Mfg Lines 5-8: 2/'13 – Est 12/'13



A Family Owned Corporation that Started in 1976 [Rockline Industries](#) employs 1800 people worldwide with 6 Global Manufacturing Facilities & 3 Independent Factories. They are the Largest Supplier of Coffee Filters and Private Label Wet Wipes in North America.



Beginning in 2009 Rockline engaged Pinnacle Energy Services to provide a comprehensive energy consulting package aimed at turning an otherwise conventional product line expansion into a bold [CSR](#) statement for the purpose of reinforcing their environmental commitment and improving upon their score in the “[Sustainability Supplier Assessment](#)” program - a vendor performance grading system established by Wal-Mart, Rockline’s largest client.

Rockline was seeking to add four manufacturing lines to its Wet Wipe production capacity. The lines were to be completed enclosed in environmentally controlled isolation rooms. The company’s QA/QC policies dictated space condition control for pressurization, air changes, temperature, humidity, air contamination and bacteria levels. Early sustainable design charettes presented the possibility of utilizing an open field adjacent to the primary manufacturing

*“...Rockline engaged Pinnacle Energy Services to provide a comprehensive energy consulting package...”*

facility for a geothermal system. Rockline then tasked Pinnacle Energy Services to begin a Feasibility Study - the first of three project phases that ultimately included the Geothermal Feasibility Study, a Building Energy Modeling phase with ROI Analysis and finally a traditional MEP Design and Construction phase.



The **Phase 1** feasibility study focused on analyzing the thermal potential of the adjacent field to see if it could support the HVAC loads of nearly 50,000 SF space for the proposed manufacturing lines, an existing chemical mix room, and existing QA/QC laboratory. For this work Pinnacle worked with the owner’s selected contractor [Multi-Craft Contractors](#) in the construction and deployment of a mobile geothermal testing



unit and in well-field testing. We then developed a computer model based on ASHRAE guidelines to determine the number, size and depth required for the geothermal wells needed to support the load. In the end, the field was found to be of sufficient size to accommodate the manufacturing line expansion and Phase 2 was begun.

**Phase 2** work included gathering and incorporating diverse project data into a comprehensive computer building model using Trane Trace 700 software which ultimately provided Life Cycle Cost Analysis (LCCA) of various HVAC system strategies and options for the owner to consider. Several “What if?” scenarios were generated that allowed Rockline to optimize their decision concerning heating and cooling efficiency and related energy costs versus project capital cost.

Finally, in **Phase 3**, our design and construction period work involved coordinating closely with the GC in providing complete MEP design services. The design was based on a state-of-the-art high efficiency modular chiller plant incorporating ground source manifold heat pumps.



**Celebrating the Victories!** is always a good idea given the hard work it takes to achieve them. And following construction Pinnacle performed energy and carbon savings calculations for use in their yearly [CSR reporting](#) and also provided “hard data” required by electrical utility AEP/SWEPCO to earn a \$50,000 Energy Efficiency Rebate as part of the utility’s [Commercial & Industrial \(C&I\) Program](#). For their annual energy efficiency program kick-off, SWEPCO also invited Pinnacle President Ryan McClain and Nick Santoleri, Rockline’s VP of Global Operations - Wet Wipes Division, to deliver a “Success Story” presentation from the consultants / owners perspective in using the C&I program.



## Phase 4???

Since completion, the energy efficient manufacturing line expansion project has served as a featured success story for Rockline who has hosted a number of client tours at the facility to demonstrate the kind of steps they are making as an environmentally responsible supply chain partner.

Recently in February of 2013, Rockline and Pinnacle Energy Services are teaming up again for an encore performance of the successful ground-source HVAC solution to handle another manufacturing line expansion.

