



More gas, cleaner gas, better results

The profit advantages of dewatering landfill gas wells

When gas production matters, dewatering keeps liquid levels from choking the flow of gas from the well

Profitable and reliable capture of landfill methane depends on keeping liquid levels from choking the gas flow. Low liquid levels in well, or a field, most often means higher and more dependable gas production. Gas-well dewatering can be critical to the viability of new and already installed gas-collection systems by increasing the screen area in wells dedicated to capturing gas.

Piston pumps are particularly useful for gas-well dewatering. The advanced design of the pumps, with the drive motor

Piston pumps offer several advantages, including fast payback, more uptime, no air contamination

above the well head, requires far less maintenance than other pump styles, which means more uptime and more gas delivered. Also, there is no air introduced into the well and no oxygen contamination, which means cleaner methane from the source.

More engineers are specifying Blackhawk Technology Company's advanced piston-pumping solutions for dewatering gas wells because Blackhawks are proven tough, reliable, efficient and economical. The patented systems include rugged downhole components that are standards of the industry. Typical payback time for a long-life system is a matter of months. Blackhawk pumps handle high discharge pressure, work in vacuum environments and are built to handle extremes of heat and cold.

Why Gas Producers Choose Blackhawk

- More gas — less water to choke gas flow
- Cleaner gas — no air introduced into well, no air contamination
- More uptime — servicing does not require opening the well
- Far less maintenance, no pulling and cleaning
- No stalling under vacuum
- Low, steady flow reduces chances of well silting in
- Eliminates cavitation — can run dry
- No greenhouse gas emissions
- No air/leachate contact — reduces odor, biomass buildup
- Pumps almost any liquid — including foam and suspended solids
- Pumps at any angle — even horizontal gas-extraction lines
- Pumps in broadest range of physical environments — hot to cold
- Four power sources — pneumatic, electric, windmill and solar
- Widest range of flows and heads available
- Operates when/where others cannot

See how Blackhawk's piston pumps work
Visit www.blackhawkco.com/company or call 1-800-469-4887



The Quick Payback Calculator: A simple formula for surprisingly good returns

Estimate

"Extra" gas recovered per well : _____ scfm

Current gas selling price: _____ / MMBTU

Payback calculation

_____ scfm x 500 BTU/SCF = _____ BTU/min

BTU/min x 60 = _____ BTU/hr

BTU/hr x 24 hours = _____ BTU/day

BTU/day/1,000,000 = _____ MMBTU/day extra gas recovered

MMBTU/day x \$ _____ /MMBTU = _____ \$/day more gas

\$5,000 (est.) per pump / \$/day gas recovered = _____ days to pay back purchase

Ongoing per-year revenues = _____ per well

Example of a typical gas collection system *

Gas recovered per well: 25 scfm

Current gas selling price: \$4 / MMBTU

Payback calculation (assuming \$4 MMBTU)

25 scfm x 500 BTU/SCF = 12,500 BTU/min

12,500 BTU/min x 60 = 750,000 BTU/hr

750,000 BTU/hr x 24 = 18,000,000 BTU/day

18,000,000 BTU/day/1,000,000 = 18 MMBTU/day extra gas recovered

18 MMBTU/day x \$4/MMBTU = \$72 /day for 25 scfm extra gas at \$4/MMBTU

\$5,000 pump cost / \$72 = 69.5 days to pay back purchase

Ongoing per-year revenues @ \$4/MMBTU = \$26,280 per well

** Example is an amalgam of results and is for illustrative purposes only – individual results vary.*

About Blackhawk

Blackhawk Technology Company is the originator and the No. 1 manufacturer of top-head-drive, positive-displacement piston pumps — leading-edge technology refined by 20 years of customer-driven improvements. Blackhawk continues to introduce innovative products to the industry's most comprehensive line of pneumatic, electric, windmill and solar-driven piston pumps and pump supplies, all designed to withstand the harshest weather and downhole pumping environments. Founded in 1990, the company originated landfill and groundwater remediation piston pumps covered by several patents and marks, with others pending. No one offers more real-world piston pumping experience in landfills, chemical facilities, hydrocarbon production and remediation sites throughout North and South America, Europe, Asia, Africa and Australia.

The more gas wells you have, the more you need Blackhawk
Visit www.blackhawkco.com or call 1-800-469-4887