

Custom Air Cooled Package Chiller Solution



Expert thermal
process energy
management

Flaring is both an exciting opportunity and one of the biggest challenges in the Bakken shale



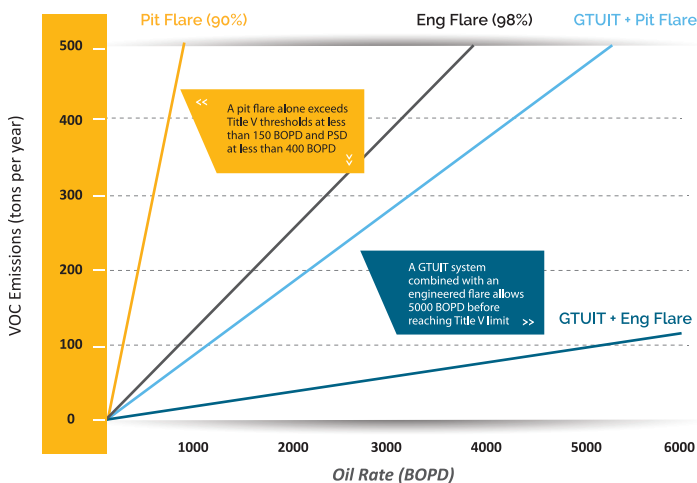
Berg Chilling Systems Inc. and GTUIT LLC save money and improve environmental performance for Bakken oil producers

Oil producers that flare unprocessed wellhead gas are burning money. As in most oil shale plays, oil production wellhead gas is rich in hydrocarbons but often difficult to move to market due to the high rates and rapid pace of development.

1,000 cubic feet of raw gas can contain 8 to 12 gallons of natural gas liquids (NGLs), including ethane, propane, butane, even natural gasoline. Flaring it emits large quantities of volatile organic compounds (VOCs) into the environment as well as carbon monoxide, carbon dioxide and particulates.

Most importantly, the quantity of VOCs sent to atmosphere by flaring gas is strictly controlled by the US EPA's Title V and Prevention of Significant Deterioration (PSD) threshold regulations. Adhering to these regulations is costly and burdensome, particularly in the early stages of a well's production life cycle. Producers often throttle oil production to stay within the VOC thresholds at the expense of cash flow at a time when they need it most.

The GTUIT flare solution yields substantial economic and environmental benefits



GTUIT and Berg Chilling Systems Inc. joined forces to develop a game changing solution to the wellhead gas challenge. GTUIT's trailer-mounted portable wellhead gas processing system includes proprietary technology that strips out NGLs and drastically reduces VOCs by liquefying and storing them. Valuable NGLs and purified wellhead natural gas streams are diverted away from flare stacks, significantly improving environmental performance, reducing production cost, and increasing revenue.

One 1000 MCFD GTUIT™ operating for 1 year in the Bakken Oil Field:

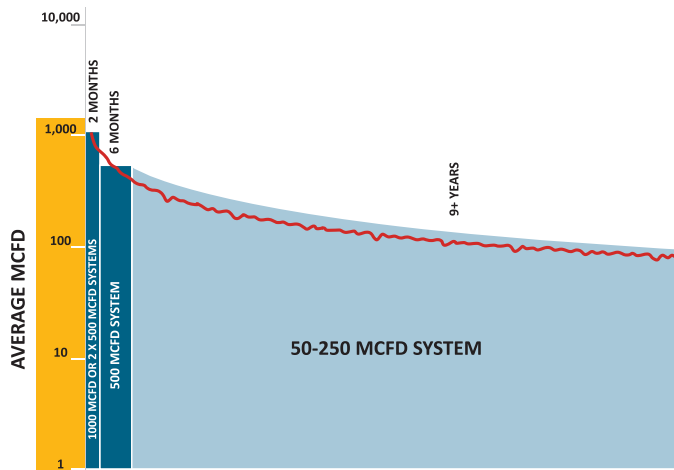
- Produces more than 1.3 million gallons, or 31,000 barrels of Y-grade NGLs
- Prevents 3,856 tons of VOCs from being flared
- Prevents 11,500 tons of CO₂ emissions
- Captures enough BTU to heat 6,087 US homes or enough to provide all the energy needs for 1,826 US homes

GTUIT currently has 20 MMCFD of treatment capacity under contract and working in North Dakota. As of January 2018, the equipment processed over 7.5 billion cubic feet of wellhead gas and produced more than 1 million barrels of NGLs. These gas and liquid products can be used on site to fuel power generation equipment, recycled back into the production process, or stored and sold. Each option increases financial performance and benefits the environment.

Pipeline take-away capacity, particularly in developed regions with higher gas production, is improved by reducing the volume of gas in the pipeline. Removing NGLs that drop out – causing flow restrictions – reduces costly pipeline maintenance. The processed gas is a quality, dehydrated natural gas product. Its consistent BTU and increased methane rating is delivered at steady flow and pressure. It can feed onsite power generators or heat frac water, reducing reliance on expensive diesel fuel. It can be further processed and sold as liquefied natural gas or compressed natural gas products. Compressed and injected back into the well to run artificial lifts, the gas increases productivity and reduces the need for extra processing materials to sustain the production process.

Two key features of GTUIT's technology are:

1. The unique ability to scale capacity to synchronize with a well's stage in its production lifecycle
2. A flexible design that effectively manages the variable nature of wellhead gas compositions and flows coming from wells during production



1,000 MCFD, 500 MCFD, and 250 MCFD capacity modules can be deployed in optimal combinations that match the incoming volume of wellhead gas during any stage of the well's lifecycle. GTUIT's modules are easily moved as wellhead gas rates fall and stabilize over time, causing no disruption in production. This flexibility ensures optimal system capacity, maximizing return on investment and environmental performance while minimizing scenarios where wellhead gas must bypass it.

About GTUIT

GTUIT is an industry leader of well-site level associated gas processing that includes innovative hydrogen sulfide removal and gas processing using mobile and modular equipment to recover natural gas liquids (NGLs) and to condition fuel gas. GTUIT provides both proprietary equipment and best-in-class field service with systems that are mobile and scalable from 250 MCFD to 5 MMCFD+.

The firm is focused on providing innovative solutions for stranded gas processing, timely manufacturing, and industry leading service that creates value for its customers.

Brian Cebull: *“GTUIT has leveraged our extensive oil and gas experience and combined it with Berg’s decades of refrigeration experience to create a superior product that maximizes NGL recoveries right on the wellsite, creating a valuable stream of NGLs and conditioned residue gas. Coupled with GTUIT’s comprehensive service model, GTUIT and Berg literally take care of the flare!”*

About Berg Chilling Systems Inc.

For 45 years, Berg Chilling Systems has served the cooling needs of diverse industries such as manufacturing, food & beverage, oil & gas, recreational ice, and transportation. Berg’s collaborative approach brings Berg professionals and client professionals together to produce custom engineered solutions specific for each application.

The company’s field and in-house engineers apply unmatched expertise to fully understand and satisfy customers’ cooling challenges. Berg’s custom-designed cooling solutions yield maximum efficiency and cost savings immediately and over the long term. Clients trust Berg expertise to make the difference between adequate and excellent.

Don Berggren: *“Through our experience in the global oil and gas sector, our engineering team was able to develop a solution that met GTUIT’s needs, ensuring system wide flexibility to handle the wide variety of inlet variations and environmental conditions seen in the Bakken oil fields.”*



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