



Eureka Resources LLC Business Model The Sustainable Choice for Oil & Gas Wastewater Recycling

A Sustainable Choice for Recycling

The oil and gas industry has established goals for minimizing the use of freshwater for drilling and completion activities by maximizing the recycle of wastewaters generated from exploration and production (E&P) activities. Many operators have established a goal of 100 percent recycle for their development activities. Eureka Resources, LLC (Eureka) has developed a business model which gives oil and gas operators the sustainable choice for recycling oil and gas wastewaters.

Eureka Resources Business Model

The Eureka Model involves permitting, designing, constructing, and operating comprehensive centralized wastewater treatment facilities utilizing state-of-the-art technologies to achieve the following goals and objectives:

- ◆ Continuous improvement in the management/treatment approach for oil and gas wastewaters
- ◆ Locating centralized treatment facilities in close proximity to major fairways of development activities to minimize hauling and associated costs
- ◆ Providing customers with options for level of treatment with the goal of maximizing recycle of:
 - Pretreated Wastewater – water treated to reduce the suspended solids
 - Distilled Wastewater – water treated to remove dissolved solids
 - Clean, Concentrated Brine – heavy (over 10.5 pounds per gallon) water that is very high in dissolved solids
 - Dewasted Water – water that meets freshwater standards
- ◆ Providing a discharge option that returns as much water as possible to the hydrologic cycle
- ◆ Maximizing recovery and beneficial reuse of recoverable products such as methanol, sodium chloride (salt), and calcium chloride
- ◆ Reduction of the long-term costs associated with treatment and recycling of oil and gas wastewaters

Center for Responsible Shale Development (CRSD) Standards

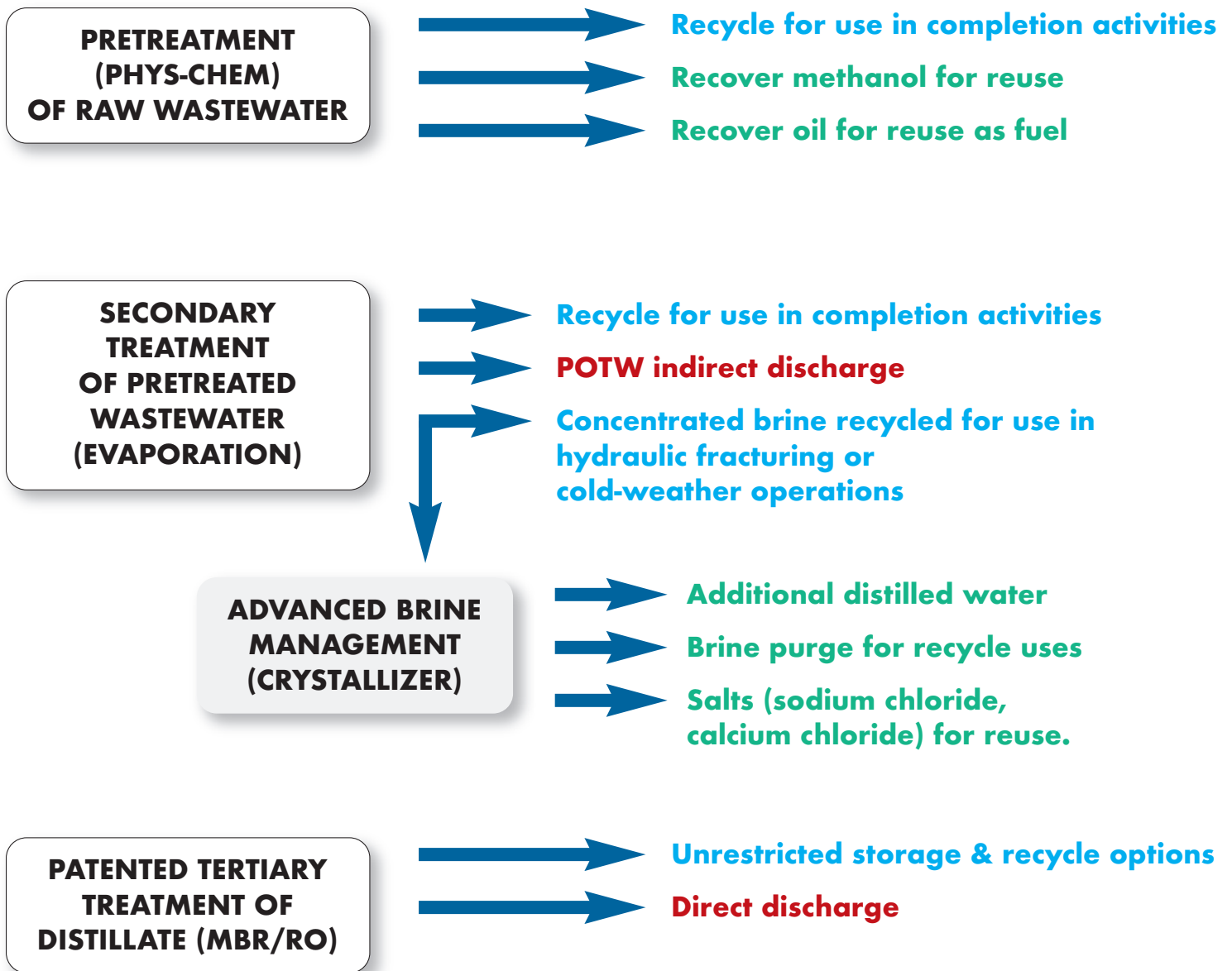
The CRSD is a collaborative effort of environmental foundations, energy companies, and other stakeholders. CRSD has established 15 initial performance standards some of which focus on wastewater recycling. Eureka's model meets the recycling and discharge related standards developed by the CRSD:

“Operators shall maintain zero discharge of wastewater (including drilling, flowback and produced waters) to Waters of the Commonwealth of Pennsylvania and other states until such time as CRSD adopts a standard for treating shale wastewater to allow for safe discharge. Such standard will be adopted by September 1, 2014. Operators shall maintain a plan to recycle flowback and produced water, for usage in drilling or fracturing a well, to the maximum extent possible. By September 24, 2014 or date of an operator’s initial application for certification (whichever is later), Operators must recycle a minimum of 90% of the flowback and produced water, by volume, from its wells in all core operating areas in which an Operator is a net water user. CRSD will consider a recycling standard for a net water producer within one year. Operators will maximize the use of recycled water to the extent possible during this time.”

Eureka's model is also the only sustainable business model because it recognizes both the need to maximize recycle as well as the need for discharge when recycle opportunities are not available. Eureka is working with operators and the CRSD to demonstrate that Eureka's model is the best approach for direct discharge to waters of the Commonwealth of Pennsylvania. Many operators and competitors dispose of wastewaters in underground injection wells which permanently removes water from the hydrologic cycle, requiring additional withdrawal of freshwater from waters of the Commonwealth. Eureka's model is the only approach that can clean waters to the levels that achieve fresh water standards allowing return of water to rivers and streams and the hydrologic cycle.

FACT SHEET
ABILITY • RESPONSIBILITY • STEWARDSHIP

EUREKA'S BUSINESS MODEL FOR MAXIMIZING RECYCLE AND BENEFICIAL REUSE OF OIL AND GAS WASTE WATERS



(US Patent No. 9,796,612)



GAS WELL WASTEWATER TREATMENT

CORPORATE OFFICE LOCATION:

454 Pine Street, Williamsport, Pennsylvania 17701

STANDING STONE FACILITY:

Type: Oil and Gas Wastewater Treatment

Location: Off Route 6 near Towanda, just east of Fisher Road, Standing Stone Township, Bradford County, Pennsylvania

Please contact us at for more information: **570-651-9972**

Visit us on our Website: www.eureka-resources.com