

Athena Global Energy Solutions



AGES

*Recycling Frac (Flowback & Produced) Water System Using
Electrocoagulation*

Tuesday, May 6, 2014

Electrocoagulation System



Side view of equipment – 20' Containerized System

Electrocoagulation System



Back view of equipment – 20' Containerized System

Electrocoagulation System & DAF System



Effluent stream into temporary 275gal water tote – pumped into DAF system

DAF System



Equipment being setup to receive effluent water pumped from EC system

DAF System



DAF equipment side view – floc separator tank (center)

DAF System



DAF equipment side view – pumping from 275 gal storage tank

Electrocoagulation System & DAF System



Side view of equipment

Electrocoagulation System



Electronic switching valves – three (3) for redundancy

Electrocoagulation System



Multiple power supplies – powering the reaction chamber (Plates: Iron, Aluminum, Steel)

Electrocoagulation System



Manual valves for output control

Electrocoagulation System



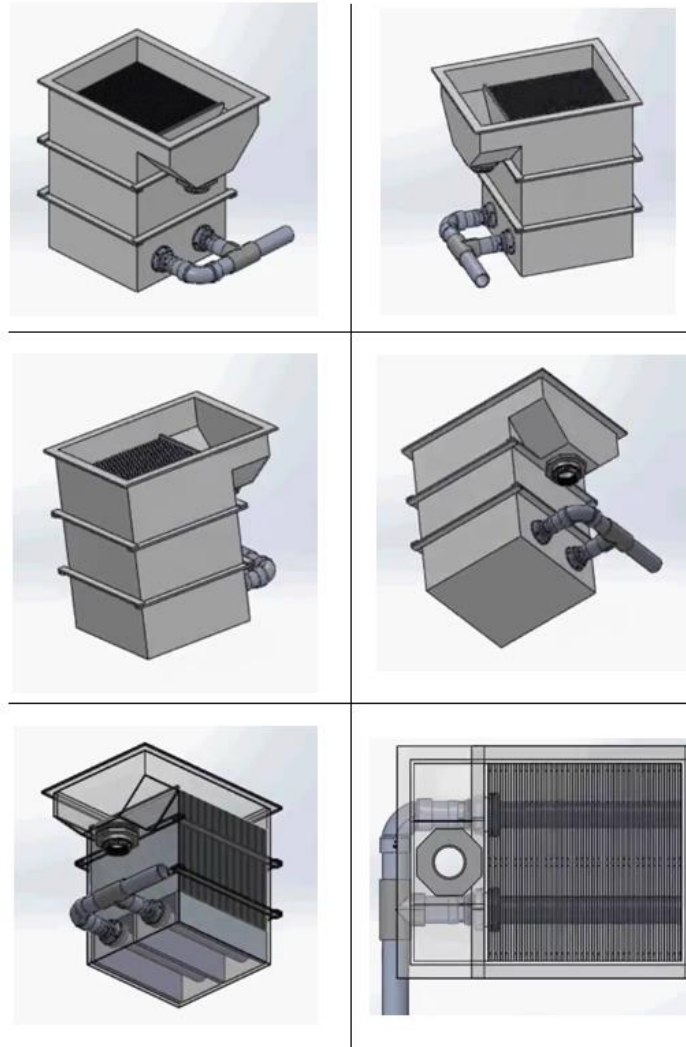
Circuit Breaker Panel

Electrocoagulation System



Inside view of reaction chamber, water samples – 10 second elapsed

Electrocoagulation System



New design for reaction chamber – system being upgraded shortly

Electrocoagulation System



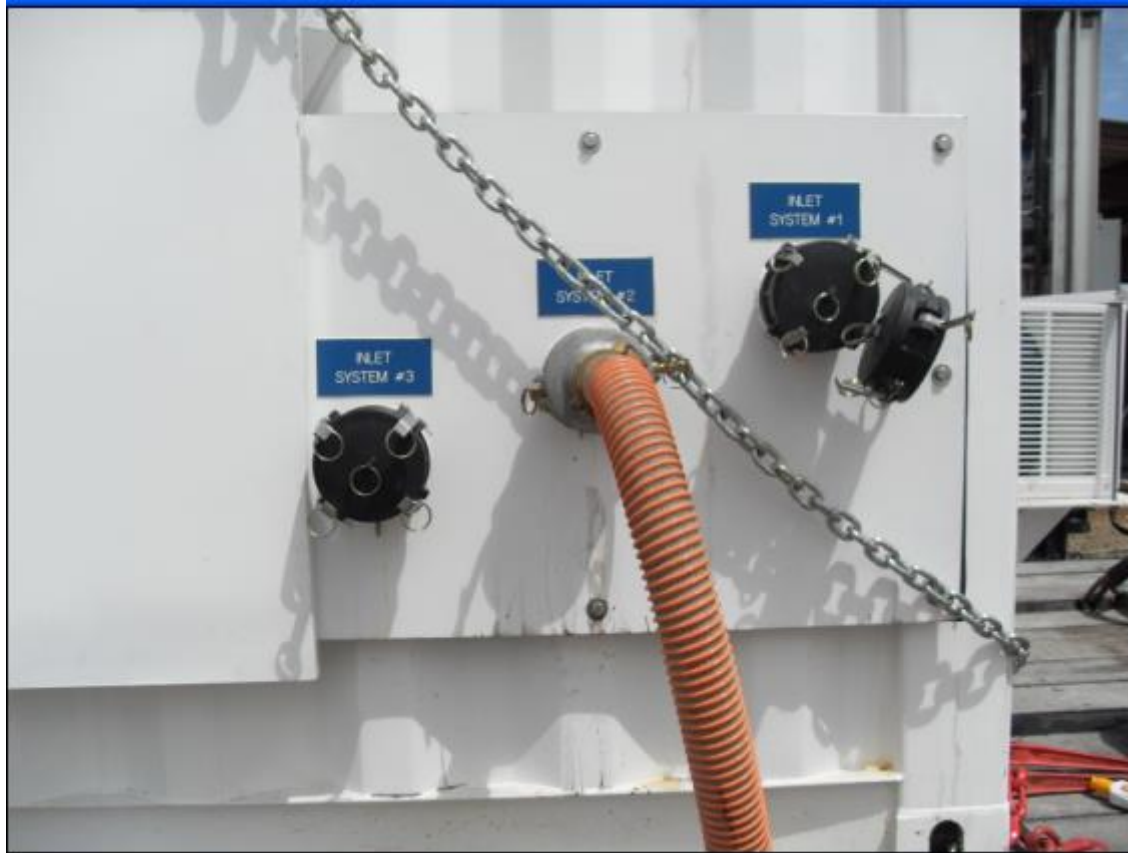
Control panel – remote monitoring system – cellular communication

Electrocoagulation System



Close up view of control panel – fully computer controlled

Electrocoagulation System



Multiple input ports – quick disconnect

Electrocoagulation System



Multiple drain ports – quick disconnect

Electrocoagulation System



Reaction chamber effluent waste stream (floc discharge)

Waste Disposal Site



Equipment operating at a waster disposal site - Oklahoma

Waste Disposal Site



Equipment operating at a waster disposal site - Oklahoma

For More Information Contact



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