MUSTANG extreme
environmental services

Mustang Extreme's Aria Rose aeration and water treatment systems are designed to improve or maintain the quality of stored water in ponds, pits and impoundments. Our systems are easily installed and require minimal OpEx and maintenance. If chemical treatment is needed in addition to aeration, our technicians can integrate subsurface treatment into the system or provide proprietary trailerized equipment for on-the-fly treatment to deliver precisely what the customer needs.

Produced/Re-Use Treatment

Mustang Extreme's Aria Rose subsurface aeration and chemical injection systems were designed specifically for oilfield produced and reuse applications and have been used extensively in multiple oilfield basins. Each system is custom designed to meet the customer's requirements based on the desired water quality and provides automated, low maintenance treatment.

Subsurface aeration system benefits:

- Increased longevity of water quality for extended storage
- Creates an oxygen rich environment to control Sulfate Reducing Bacteria (SRB)
- Prevention of dangerous levels of Hydrogen Sulfide build up
- Complete de-stratification of water layers
- Create stirring effect for water to reduce surface water temperature
- Automated treatment based on Oxidation Reduction Potential (ORP) or Dissolved Oxygen
- Requires no maintenance
- Has no internal moving parts
- Customized design for each pit application
- Most cost-effective way to maintain pit quality

Bacteria Control:

Nutrients which enter the system are metabolized by aerobic bacteria such as APBs or anaerobic bacteria such as SRBs. APBs tend to collect in the warmer and more oxygenated layers of water toward the surface. SRBs concentrate in the lower, less oxygenated and cooler layers toward the bottom of the pit. APB bacteria will consume nutrients within the water and fully metabolize the material. SRBs will partially metabolize nutrients, leaving a further source of food. Most concerning, SRBs can obtain energy by oxidizing organic compounds or molecular hydrogen (H2) while reducing sulfate (S02-4) to hydrogen sulfide (H2S) as a bi-produce of the digestion process.

Subsurface chemical injection system benefits:

- Able to be installed in conjunction with Aeration system
- Utilizes turbulent nature of aeration to mix chemical throughout the pond through rapid displacement of the pond fluids
- Subsurface injection allows for maximum contact time and chemical reaction
- Eliminates need to "Circulate pond" for 48 hours with pump
- Sensors installed allow for real time data on pond conditions, eliminating the guessing of treatment
- Can inject Chlorine Dioxide, Sodium Hypochlorite, Hydrogen Peroxide, Acids or Long-term bias
- System can be automated for continuous injection
- Chemical evenly distributed throughout the entire pond

AERATION AND WATER TREATMENT

PRODUCED/RE-USE TREATMENT

mustangextreme.com

Aeration and Water Treatment

ON-THE-FLY TREATMENT

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Aria-5 Unit

Designed to be used for on-the-fly water treatment at wellsite or at water storage sites. Our highly mobile system can be quickly deployed to provide solutions for your water treatment needs.

Benefits:

- Generates Chlorine Dioxide through two completely independent and redundant Chlorine Dioxide generation systems
- Continuous automatic ORP monitoring during treatment to determine the required injection of ClO2
- Capable of injecting up to four additional chemicals simultaneously as required by customer
- Can pump up to 200 bpm flow rate

Safety/ Monitoring:

- Three different emergency shutdowns to stop system
- Treatment adjusts automatically based on ORP
- Field testing available
- Detailed analytics from third party lab
- Tracks output data in real-time
- Only requires single operator

Benefits of Chlorine Dioxide:

Traditional biocides work from the outside in taking hours to penetrate. Chlorine dioxide penetrates through cell walls and attacks the nucleus eliminating the ability for the bacteria to replicate.

- Does not affect Friction Reducer
- Does not generate free chloride gas (THM)
- Smaller Location Footprint and Simplified Rig-up
- Bacteria cannot acclimate to ClO2
- With traditional biocides (Glutaraldehyde, Glut Ouat) bacteria can develop a resistance