## CLAIMS

1. A method for treating wastewater comprising:

filling a batch tank with seawater until it reaches a first predetermined level;

transferring the wastewater to the batch tank until a seawater and wastewater mix in the batch tank reaches a second predetermined level, wherein the wastewater comprises suspended solid particles;

subjecting a stream of the seawater and wastewater mix to electrolysis within an electrolytic cell, wherein the electrolytic cell is mounted outside the batch tank;

piping the electrolyzed stream to a quelling chamber, wherein the quelling chamber is mounted above the batch tank, wherein the quelling chamber comprises a coalescing pack having integral flow diffuser plates for dispersing the polymer solution and the electrolyzed stream, and wherein the electrolyzed stream comprises entrained micro/fine gas bubbles generated during the electrolysis;

injecting a diluted defoamer solution via a chemical injection pump from a defoamer storage chamber at the exit of the electrolytic cell;

injecting a diluted polymer solution at upstream of an in-line mixer piping, wherein the polymer solution is piped into the quelling chamber substantially concurrently with the electrolyzed stream;

enabling dispersion of the polymer solution and the electrolyzed stream as a fine shower over residual seawater and wastewater in the batch tank, wherein the polymer solution facilitates flocculation of the suspended solid particles;

creating a distinct buoyant layer of the flocculated solid particles attached with the micro bubbles;

separating a substantially clarified effluent from the flocculated layer;

spraying the batch tank with a stream of the clarified effluent to create a slurry with residual solid particles;

dewatering the slurry to compact the residual solids and generate a centrate; and

recirculating the centrate to the batch tank for use during a subsequent treatment cycle.

2. The method according to Claim 1, further comprising macerating the suspended solid particles prior to the electrolysis step.

3. The method according to Claim 1, wherein the defoamer solution manages excess foam buildup in the electrolyzed stream before it is piped to the quelling chamber.

4. The method according to Claim 1, further comprising blending, in an in-situ polymer mixing system, a cationic polymer with a predetermined volume of service water to produce the diluted polymer solution, wherein the polymer mixing system comprises a polymer mixing chamber/column.

5. The method according to Claim 4, wherein concurrently with the transferring of the seawater to the batch tank, pumping the cationic polymer into the polymer mixing chamber/column for the blending step.

6. The method according to Claim 4, further comprising providing the polymer mixing chamber/column with a first/upper switch and a second/lower switch to detect polymer solution levels in the polymer mixing chamber/column and thereby ensure an optimal amount of the polymer solution is added to the batch tank.

7. The method according to Claim 1, further comprising facilitating a settling time cycle to enable the separation of the substantially clarified effluent from the flocculated layer.

8. The method according to Claim 1, further comprising discharging the clarified effluent from the batch tank.

9. The method according to Claim 8, wherein the discharging of the clarified effluent is terminated when a third predetermined level is reached.

11. The method according to Claim 8, further comprising neutralizing residual chlorine in the clarified effluent with one or more chemicals prior to the discharge step.

12. The method according to Claim 11, further comprising measuring turbidity of the clarified effluent prior to and/or after the neutralization step.

13. The method according to Claim 8, further comprising substantially trapping the flocculated layer in the batch tank using a device such that it is prevented from being discharged with the clarified effluent.

14. The method according to Claim 13, further comprising pumping the flocculated layer from the batch tank into a sludge tank until a shutoff level is detected in the batch tank, wherein the shutoff level corresponds to a substantially empty batch tank.

15. The method according to Claim 14, further comprising resuming filling of the batch tank with seawater to commence a subsequent cycle for treating the wastewater.

18. The method according to Claim 1, wherein the centrate is added back to the batch tank prior to the addition of seawater during the subsequent treatment cycle, and wherein the centrate supplements the seawater.

19. A system for treating wastewater comprising:

a batch tank for receiving wastewater and seawater, wherein the wastewater comprises suspended solid particles;

an electrolytic cell in operable communication with the batch water tank, wherein the electrolytic cell is mounted outside the batch tank, wherein the electrolytic cell is configured to electrolyze a stream of the seawater and wastewater mix, and wherein the electrolyzed stream comprises entrained micro/fine gas bubbles;

a chemical injection pump for injecting a diluted defoamer solution into the electrolyzed stream at an exit of the electrolytic cell,

a quelling chamber, wherein the quelling chamber is mounted above the batch tank and is in fluidic communication with the batch tank; and

an in-situ polymer mixing system, wherein the polymer mixing system comprises a polymer mixing chamber/column, wherein the polymer mixing chamber/column has a first/upper switch and a second/lower switch to detect polymer solution levels in the polymer mixing chamber/column,

wherein the batch tank comprises one or more sensors, wherein the one or more sensors are configured for detecting:

a first predetermined level, wherein the first predetermined level corresponds to a predetermined seawater fill level in the batch tank;

a second predetermined level, wherein the second predetermined level corresponds to a predetermined wastewater fill level in the batch tank;

wherein the quelling chamber comprises a coalescing pack having integral flow diffuser plates.

20. The system according to Claim 19, wherein the system is skid-mounted.

21. The system according to Claim 19, further comprising a defoamer injector, wherein the defoamer injector is located outside the batch tank and in proximity to the electrolytic cell.

22. The system according to Claim 19, further comprising a dechlorination injector for neutralizing the clarified effluent, wherein the dechlorination injector is located in proximity to a port for discharging the clarified effluent.

23. The system according to Claim 19, further comprising a dewatering system, wherein the dewatering system comprises a centrifuge for receiving the flocculated solid particles in a wet slurry form.

24. The system according to Claim 23, wherein the dewatering system further comprises piping for circulating a centrate generated from centrifugation/dewatering of the flocculated solid particles/wet slurry to the batch tank.