

# Electrocoagulation

Water Recovery and Reuse

## Coal Industry

### Industry Applications

Coal companies, landfill leachate collection and treatment companies

#### Challenges

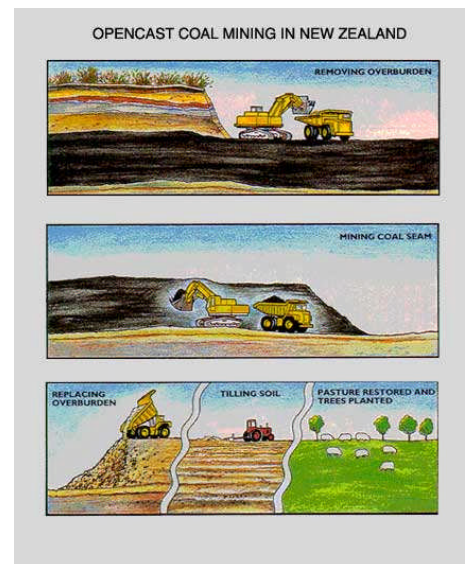
- Once very high moisture content coal is dewatered, the water contains very high total suspended solids (TSS or small coal particles).

#### Solution

Electrocoagulation:

- Has a TSS removal rate of 97% to 99%.
- Results in reuse water quality.
- The concentrated solids may be reused to make charcoal briquettes.

Contaminant	Before mg/l	After mg/l	Removal Rate %* <sup>+</sup>
TSS (clay, coal, silt, etc.)	5,620	25	99+
Silica	21.1	ND (0.10)	99+
Aluminum	224	ND (0.7)	99+
Arsenic	0.076	ND <0.002	97
Iron	29.1	3.1	89
Lead	0.59	0.0032	99+
Mercury	0.72	ND <0.003	98
Zinc	221	0.14	99+
Radioisotope Contaminant	Before	After	Removal Rate %*
Americium-241	71.99 pCi/l	0.57 pCi/l	99+
Plutonium-239	29.85 pCi/l	.29 pCi/l	99+
Radium	1093 pCi/l	0.1	99+
Uranium	0.13 mg/l	0.0002	99+



\*These published test results are specific examples and were conducted by a qualified independent laboratory or government facility.

<sup>+</sup> 30% moisture coal was heated to drive off the moisture. The moisture condensate was then electrocoagulated.