

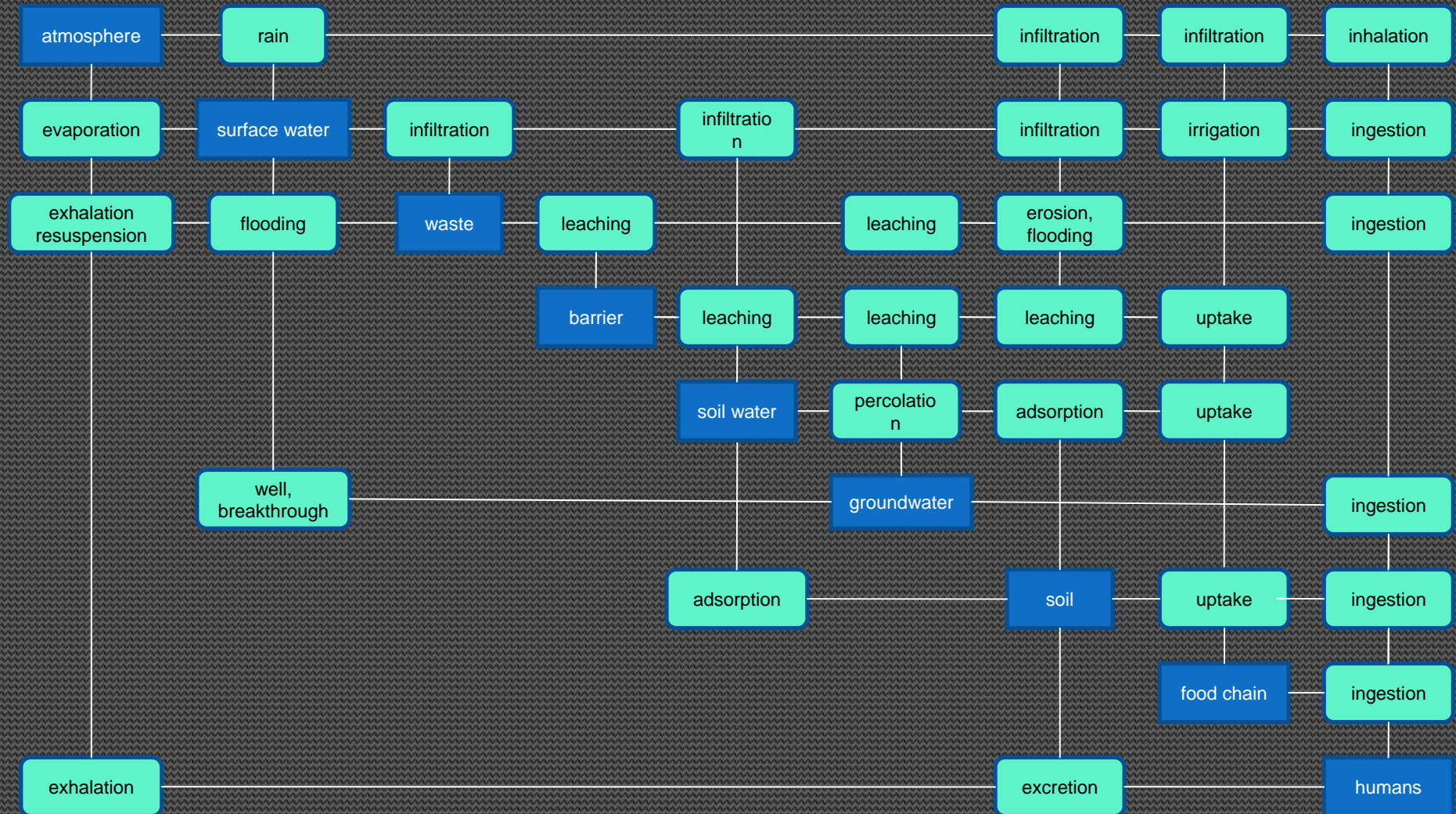
Applications

- Generalised methodology
- FEPS

Example – waste repository

- Features – waste, surface water, ground water, soil types, rock types, atmosphere, plants, humans, engineered barriers
- Events – earthquake, flood, fire, intrusion
- Processes – leaching, groundwater flow, surface flow, erosion, resuspension, transfer to plants, irrigation

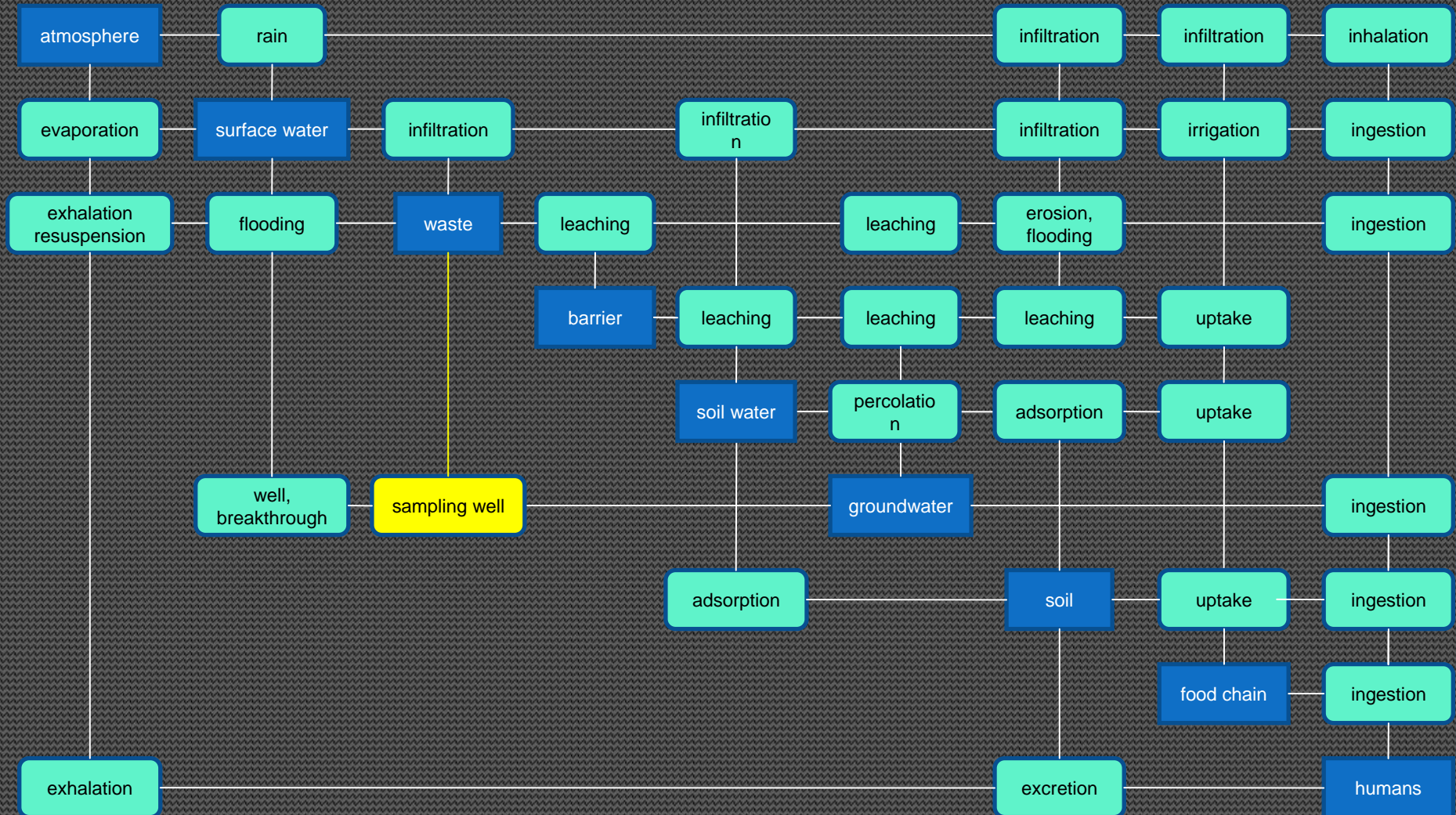
Characteristic matrix – waste repository – uncovered waste



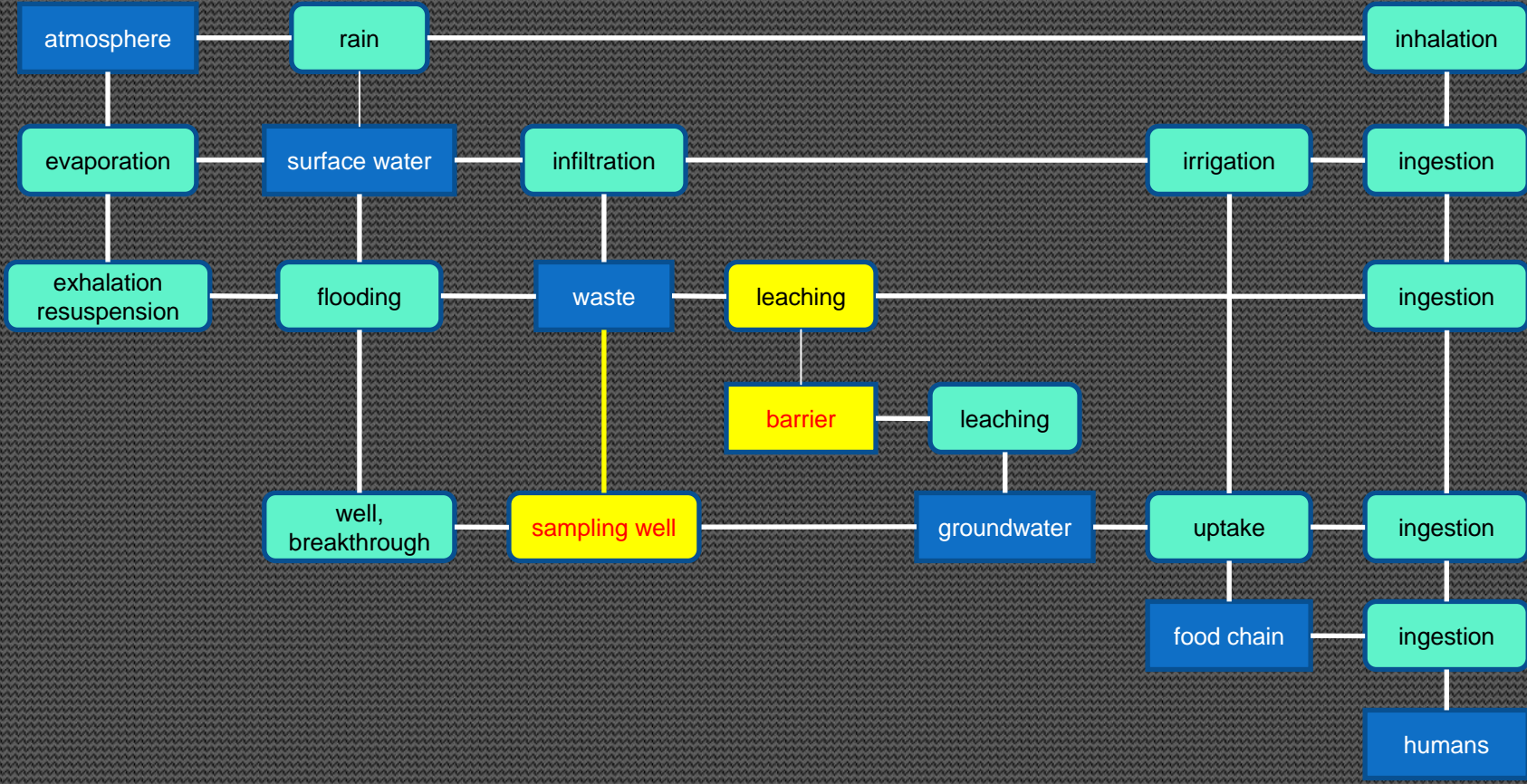
Example – Gela

- Features – waste, surface water, ground water, soil types, rock types, atmosphere, plants, humans, engineered barriers
- Events – earthquake, flood, fire, intrusion
- Processes – leaching, groundwater flow, surface flow, erosion, resuspension, transfer to plants, irrigation
- **Specific features:**
 - Retaining wall around the site – penetrates about 3 m into the underlying clay
 - Leachate is returned from the downstream sampling wells to the top of the stack

Characteristic matrix – Gela



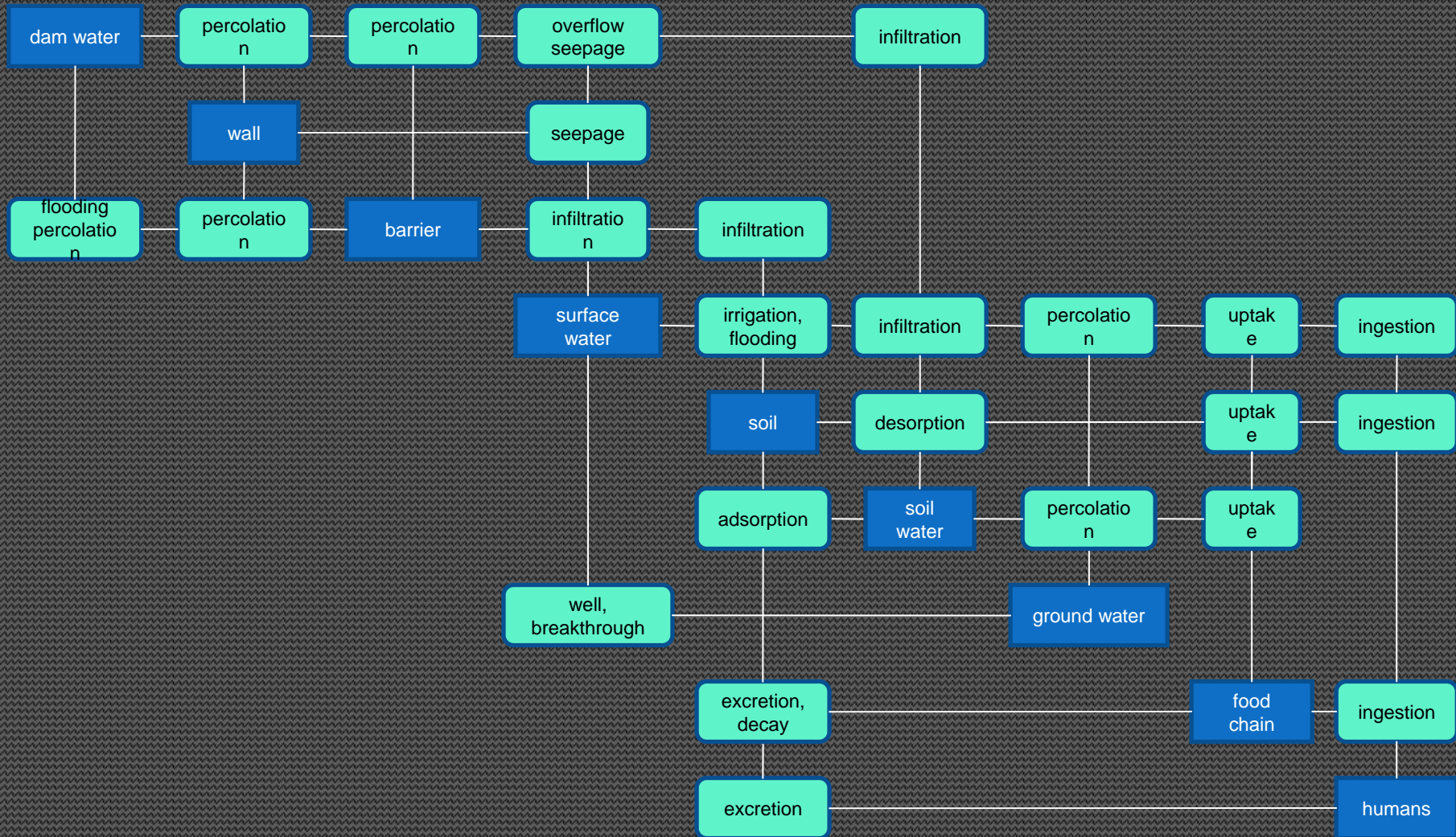
Characteristic matrix – Gela



Example – tailings dam

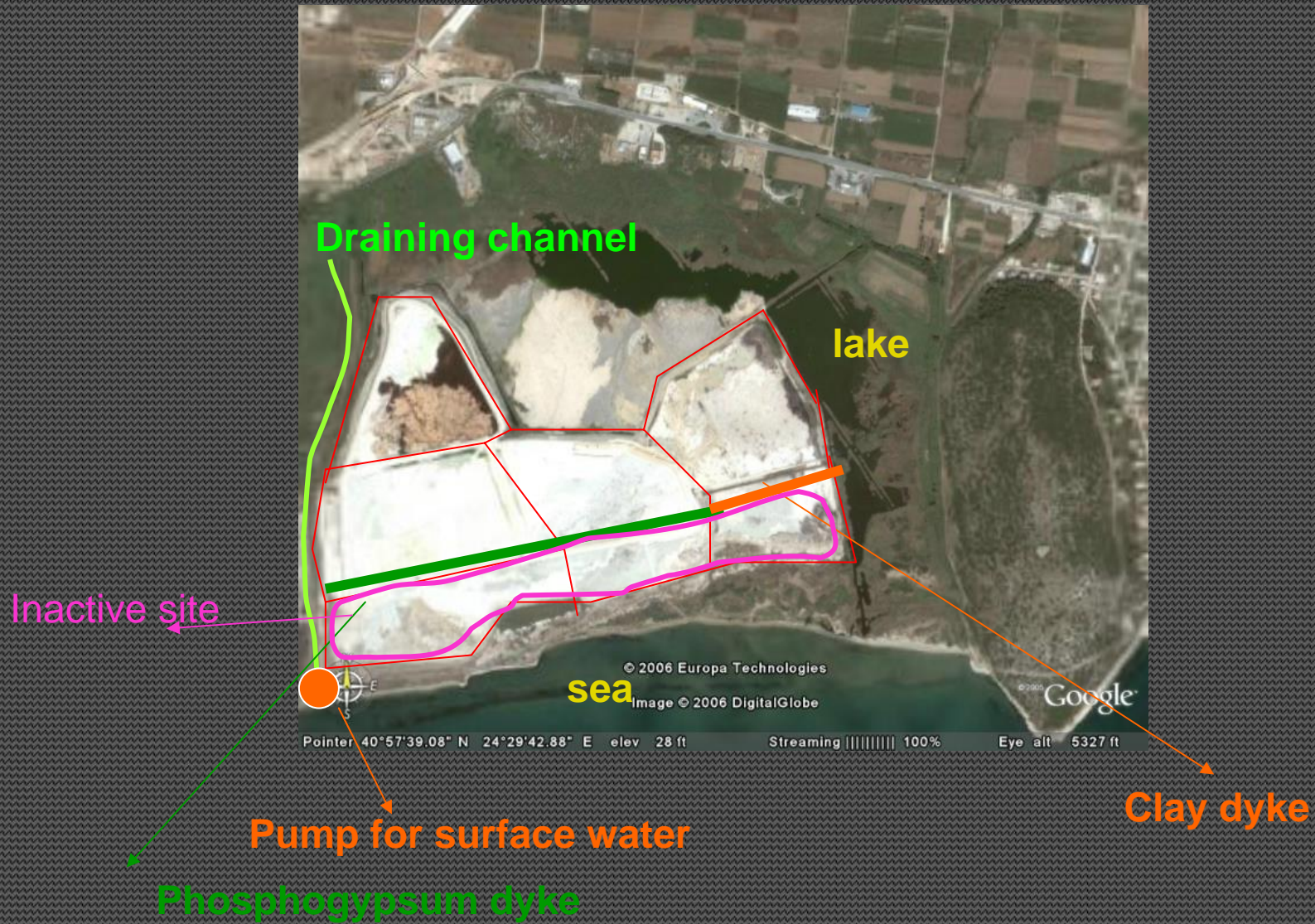
- Features – liquor, sediment, base material, groundwater,....
- Events – breach of retaining wall, overflow,....
- Processes – leaching, leaching, groundwater flow, transfer to plants, irrigation

Characteristic matrix – tailings dam



Kevala - existing situation

(563.240m²)



Application to Kevala

- Single source compartment needs to be expanded
- Have to allow for transfers (via water) between source compartments
- Transfer of fluid to and from the ocean

Example – stack discharge

- Features – stack, stack filters, atmosphere, soil, plants, humans,...
- Events – filter breakdown
- Processes – advection, convection, diffusion, dry deposition, wet deposition, leaching,.....

