



# BGS Activities, Task 3.1

---

- Collation of data on sources, pathways and receptors
  - done for Sokolov and Witbank sites.
  - Work in progress for KYG site
- Gathering information on known environmental impacts
- Drawing Conceptual models to describe the release, transport, dispersion and impact of mining related materials
- This is an on-going process and it can be fine tuned to fit the emerging indicators



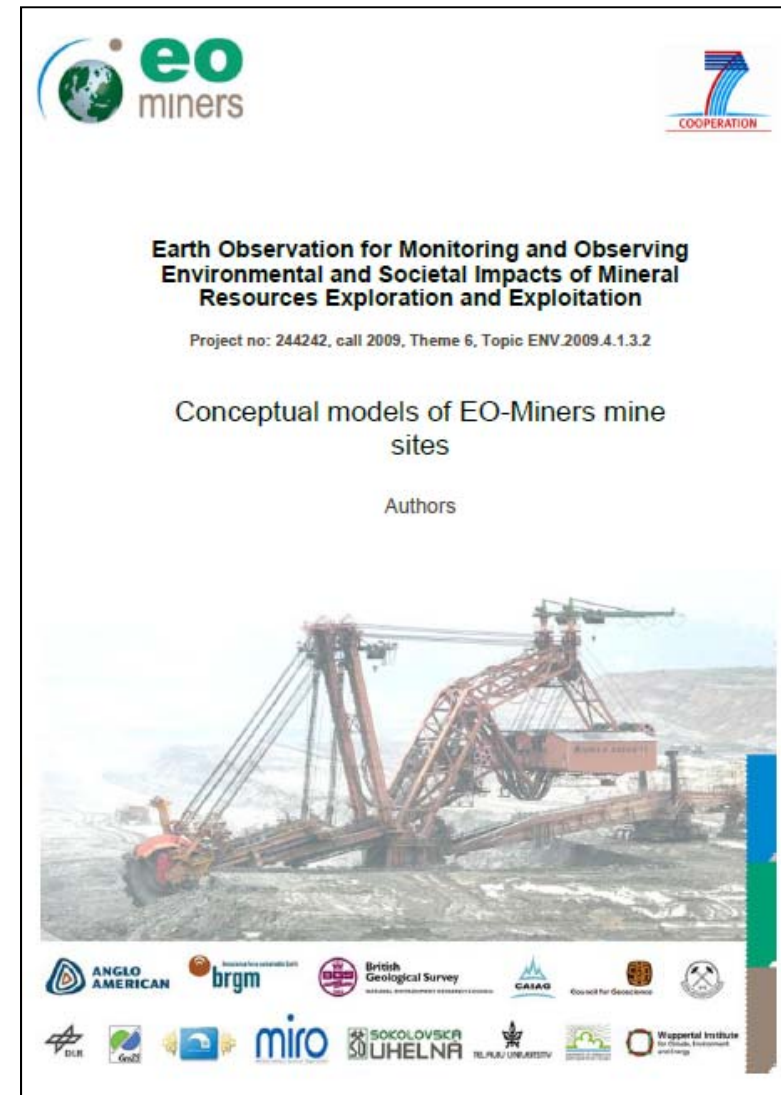
# Deliverable Status

2 out of 3 sites done

Draft report issued for SA, Cz

Comments still welcome

KYG data received, underway

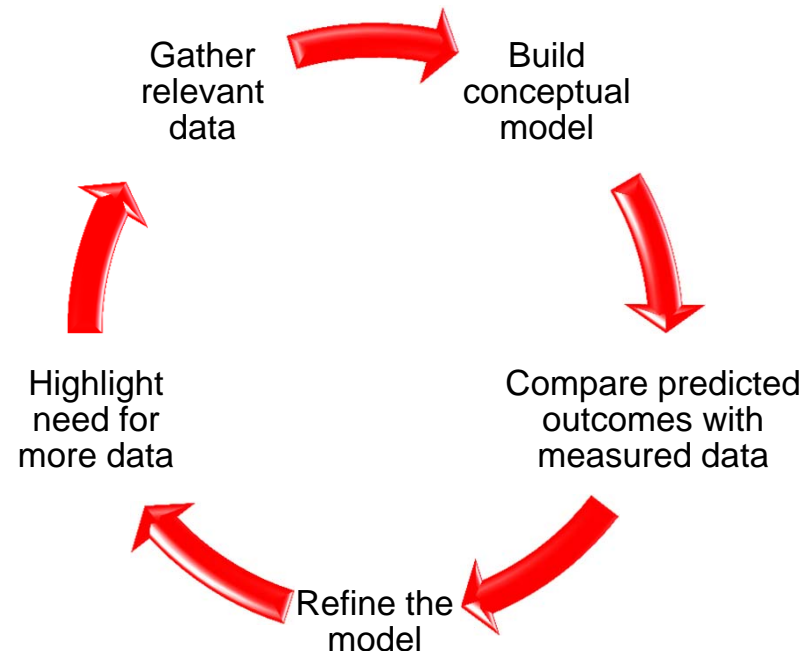




# Environmental Risk Assessment Approach

The environmental risks associated with a mine site are assessed using a risk-based contaminant - pathway - receptor methodology.

There should be a relationship between a contaminant/hazard and a receptor defined by a pathway. If one of the elements of a pollutant linkage is absent-then there can be no risk and the land is not contaminated.

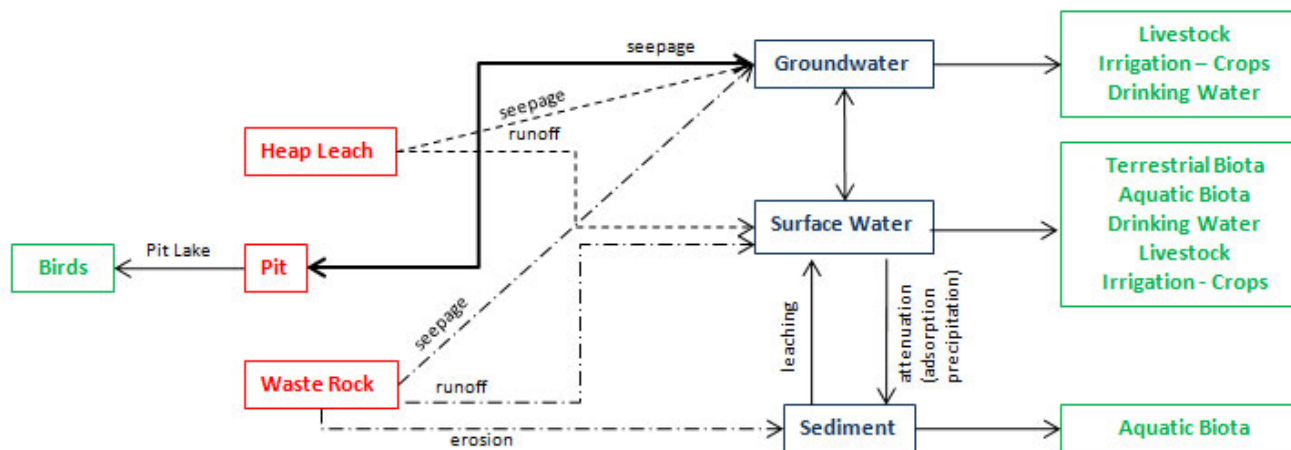
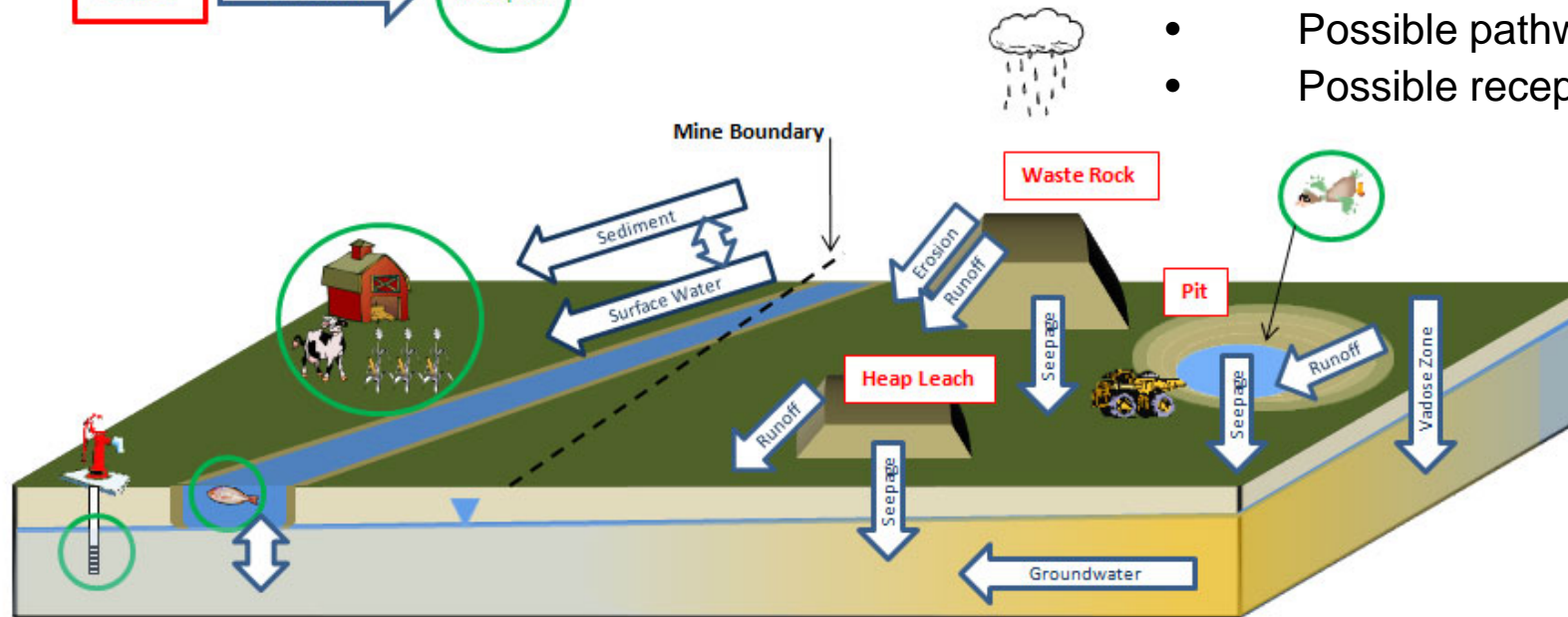


# Conceptual Model of a mine site

It is a description of the environmental conditions on a site providing information on:



- Likely contaminants
- Possible pathways
- Possible receptors



from the Global Acid Rock Drainage GARD Guide <http://www.gardguide.com/>



# Typical Data Gathered

---

**e.g. Sokolov site**

Regional framework

The Sokolov basin

- Geological setting
- Tectonic setting
- Mining (abandoned and active open pit, Jiri mine)
- Protection of thermal springs of Karlovy Vary
- Known environmental issues
- Delineation of potential sources (AMD, overburden, acid pit lakes), pathways, environmental receptors
- Data Gaps analysis

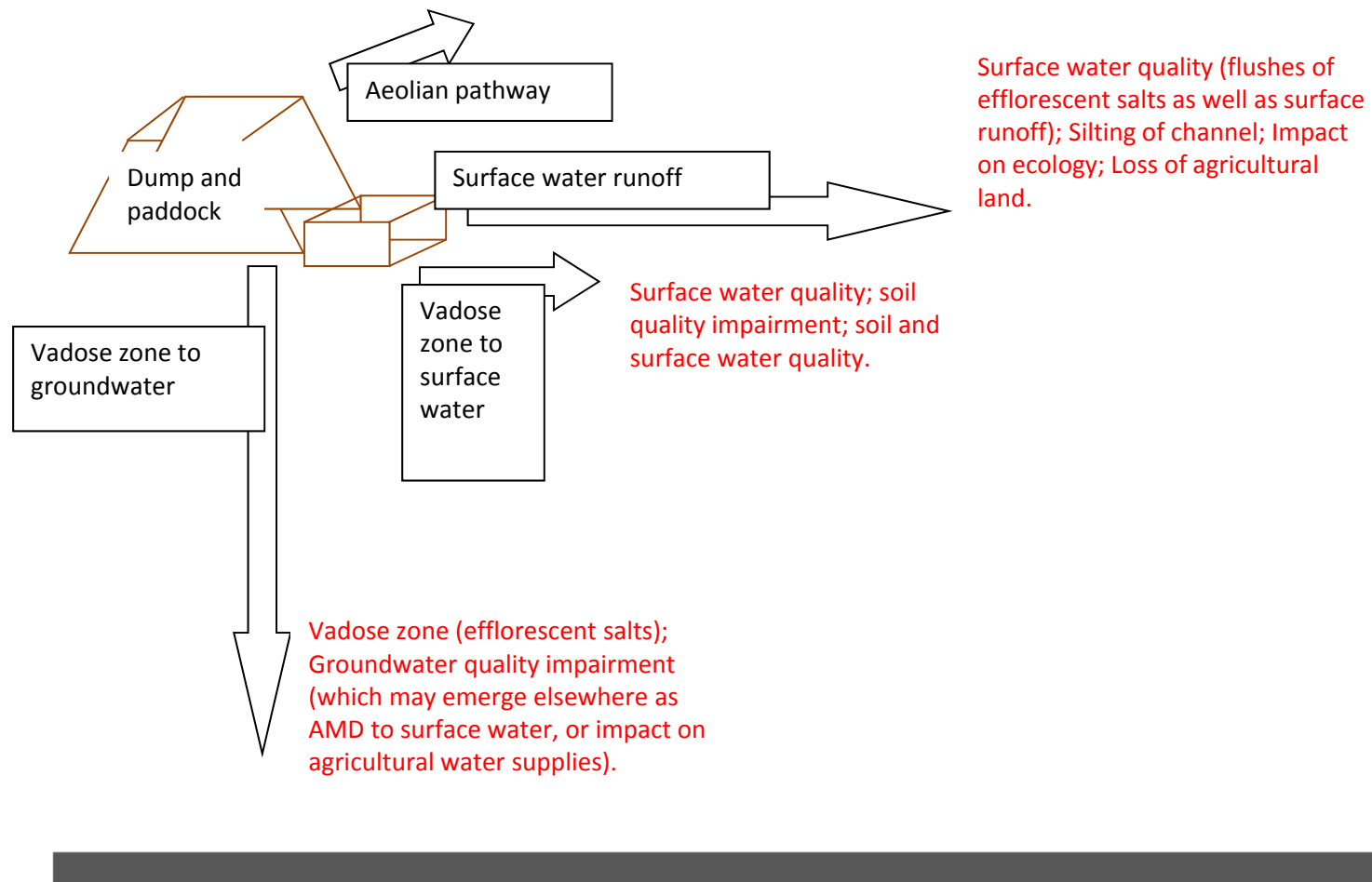




# Example Environmental Conceptual Model: SA Bank Dump

**Sources:** Pyrite rich rock waste; slimes; efflorescent salts; seepage from waste

Atmosphere (dust and acid rain);  
Human uptake.



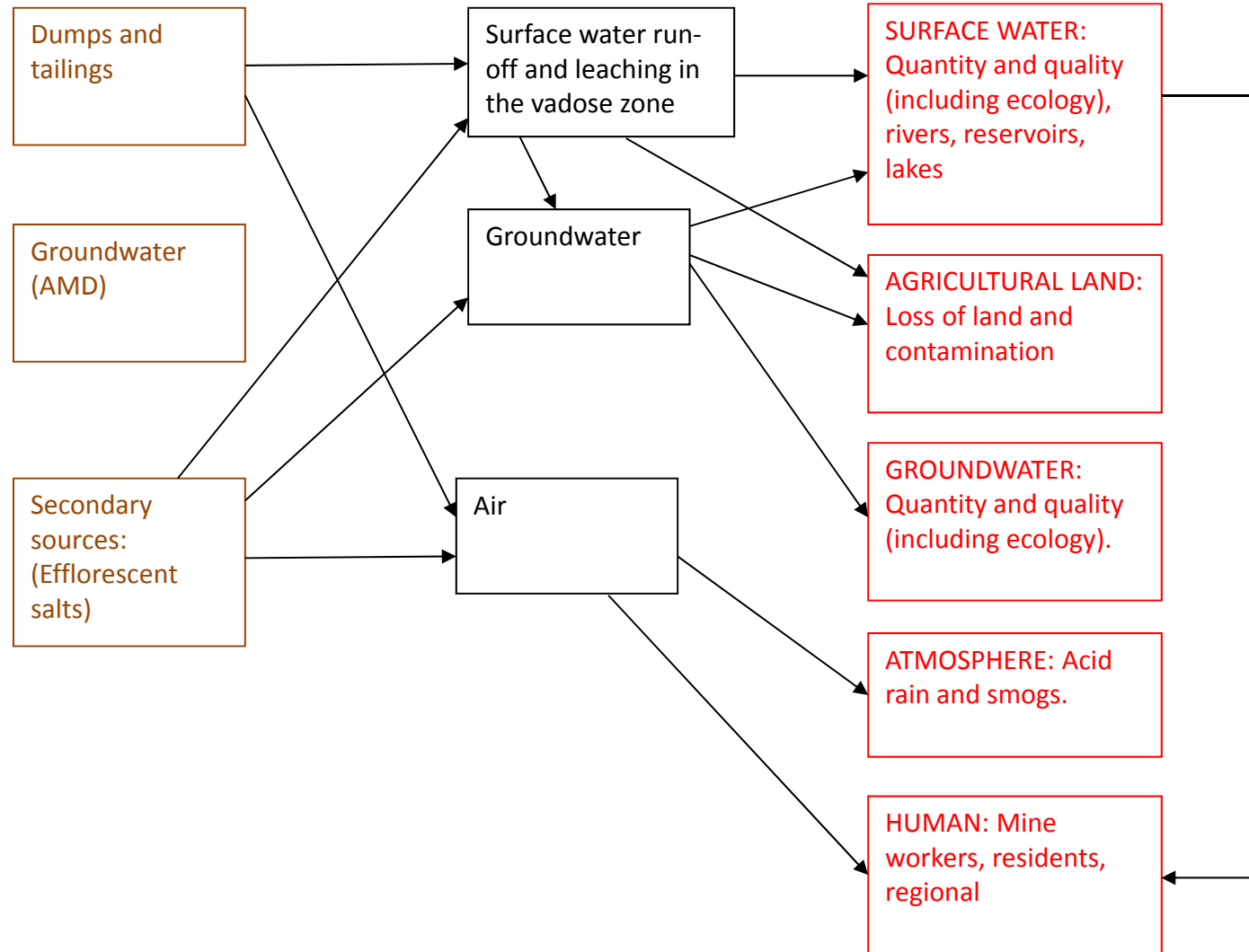


# Regional Environmental Conceptual Model Witbank Coalfield

SOURCES

PATHWAYS

RECEPTORS



# ERT Survey Preparation

The site reconnaissance visit was carried out in July 2010



Installation design in advanced stages; locations agreed

Budget transferred to CGS, as agreed, with shopping list...





# ERT Survey Lines: Plan v4

