



BGS Progress, WP3

- Conceptual Models
- ERT Survey Preparation

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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



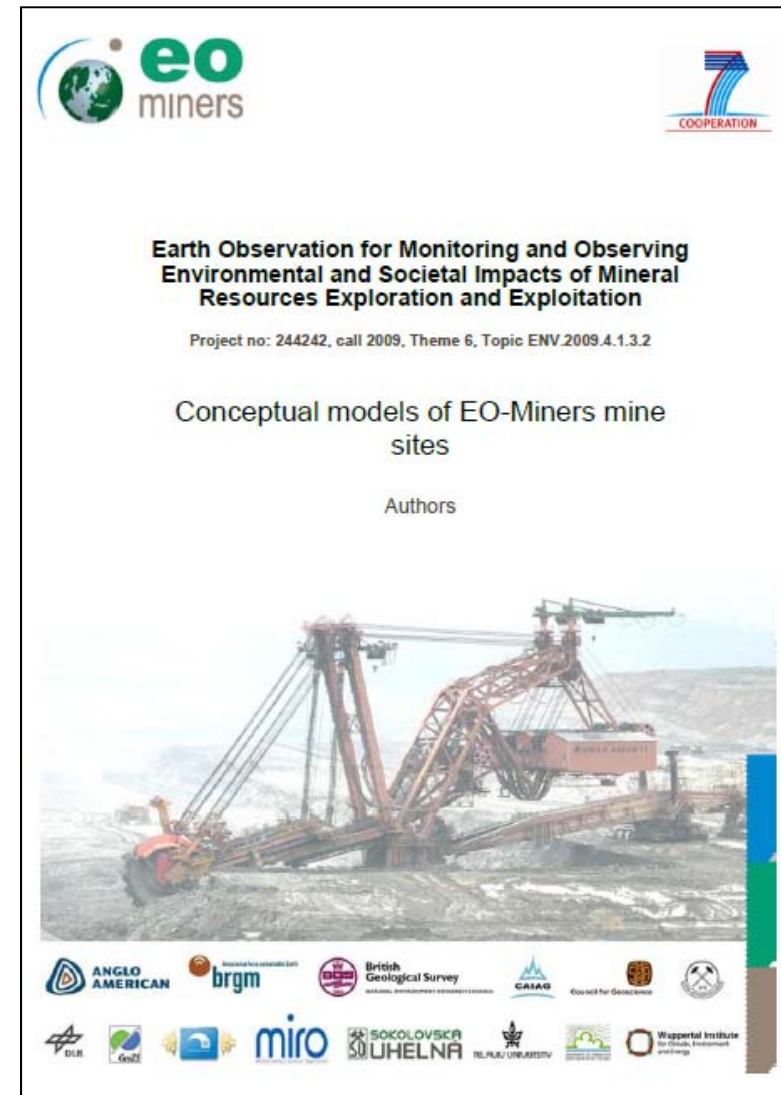
Deliverable Status

2 out of 3 sites done

Draft report issued for SA, Cz

Comments still welcome

KYG data received, underway

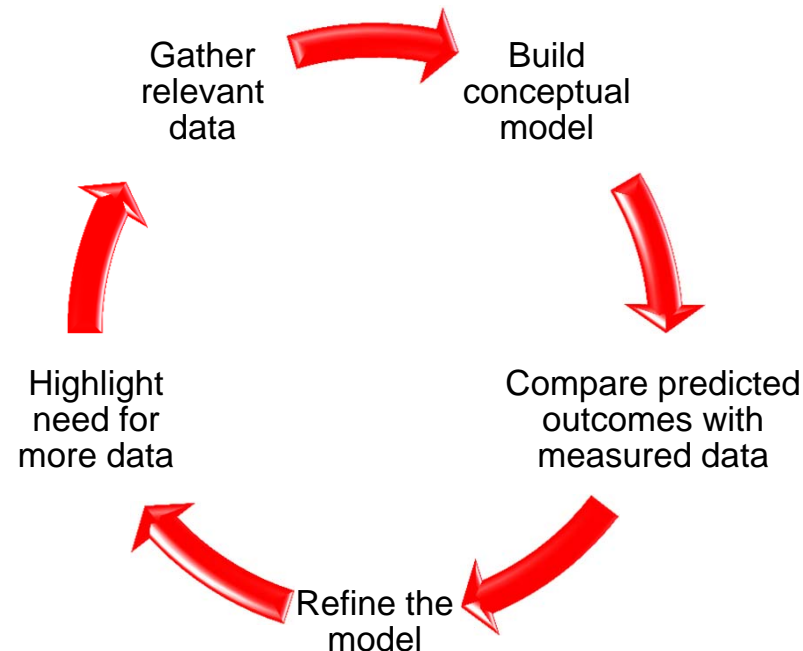




Environmental Risk Assessment Approach

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.

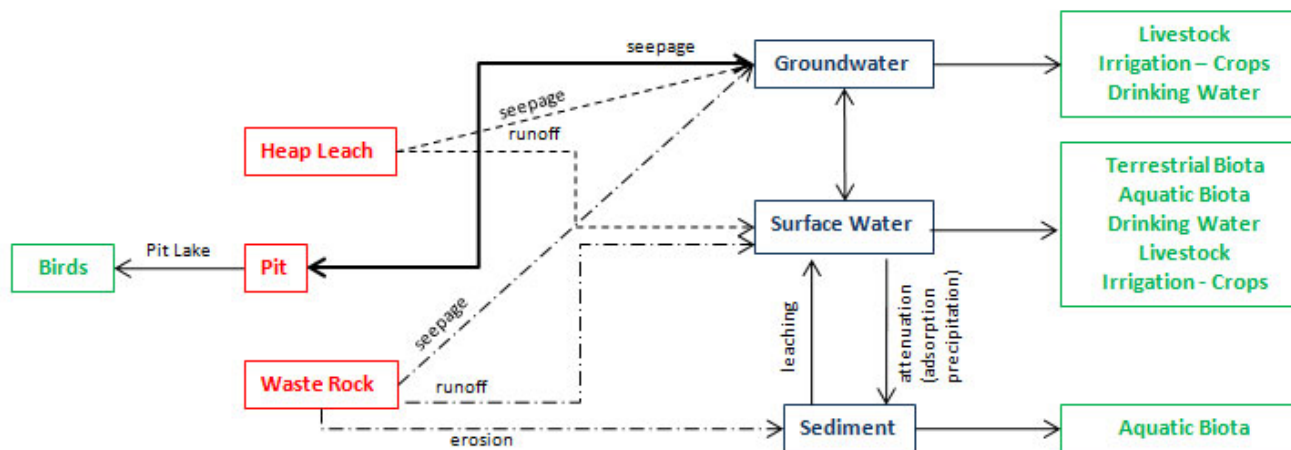
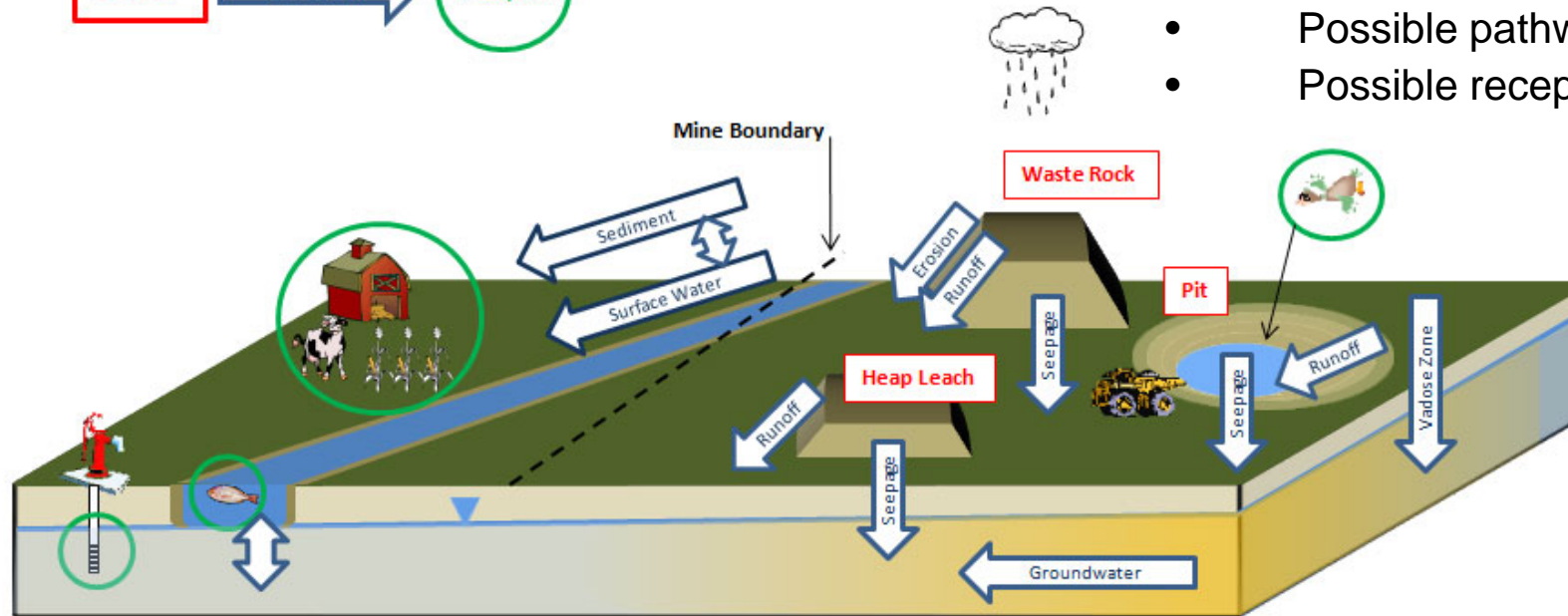


Conceptual Model of a mine site

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

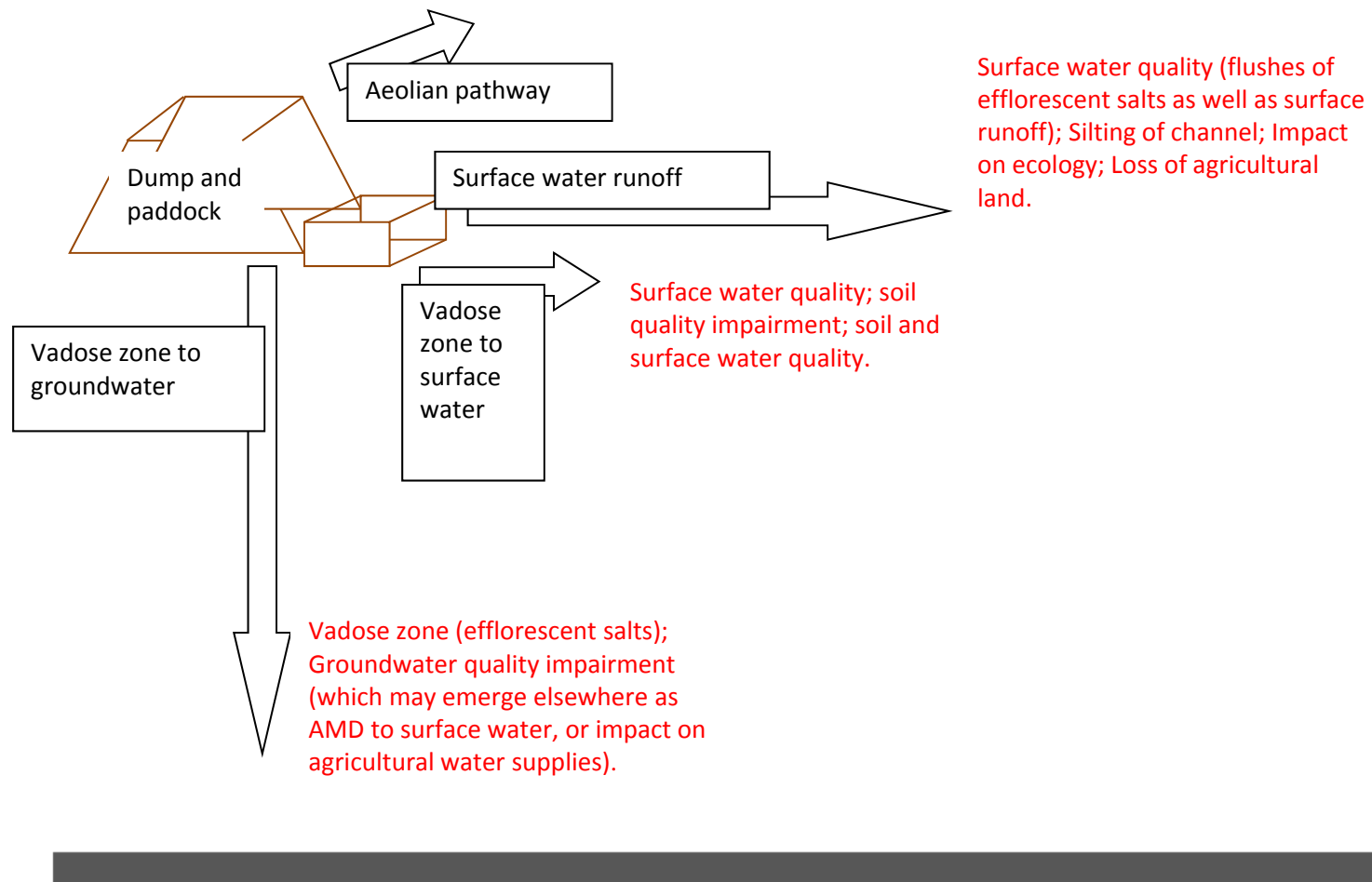




Example Environmental Conceptual Model: SA Bank Dump

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

Atmosphere (dust and acid rain);
Human uptake.



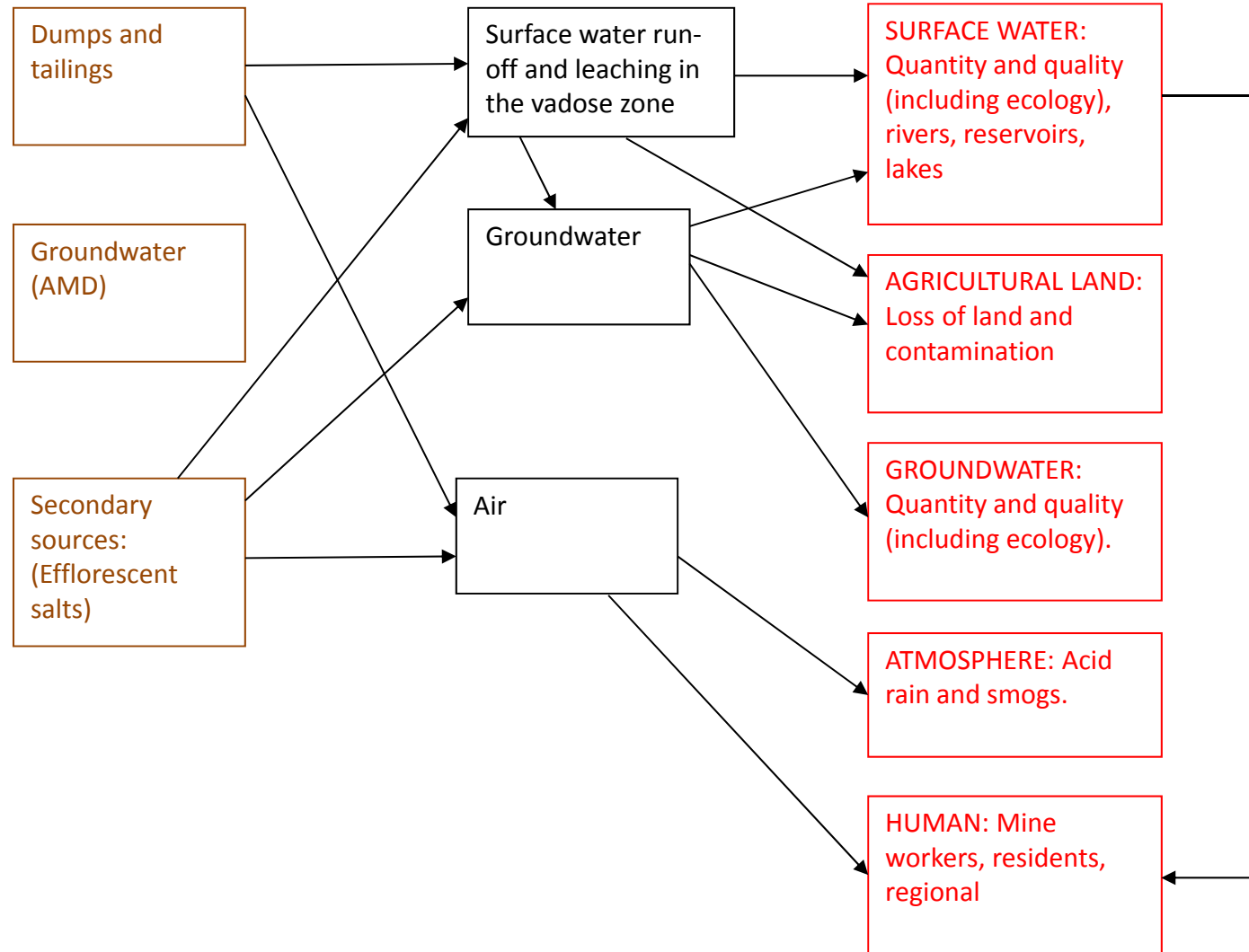


Regional Environmental Conceptual Model Witbank Coalfield

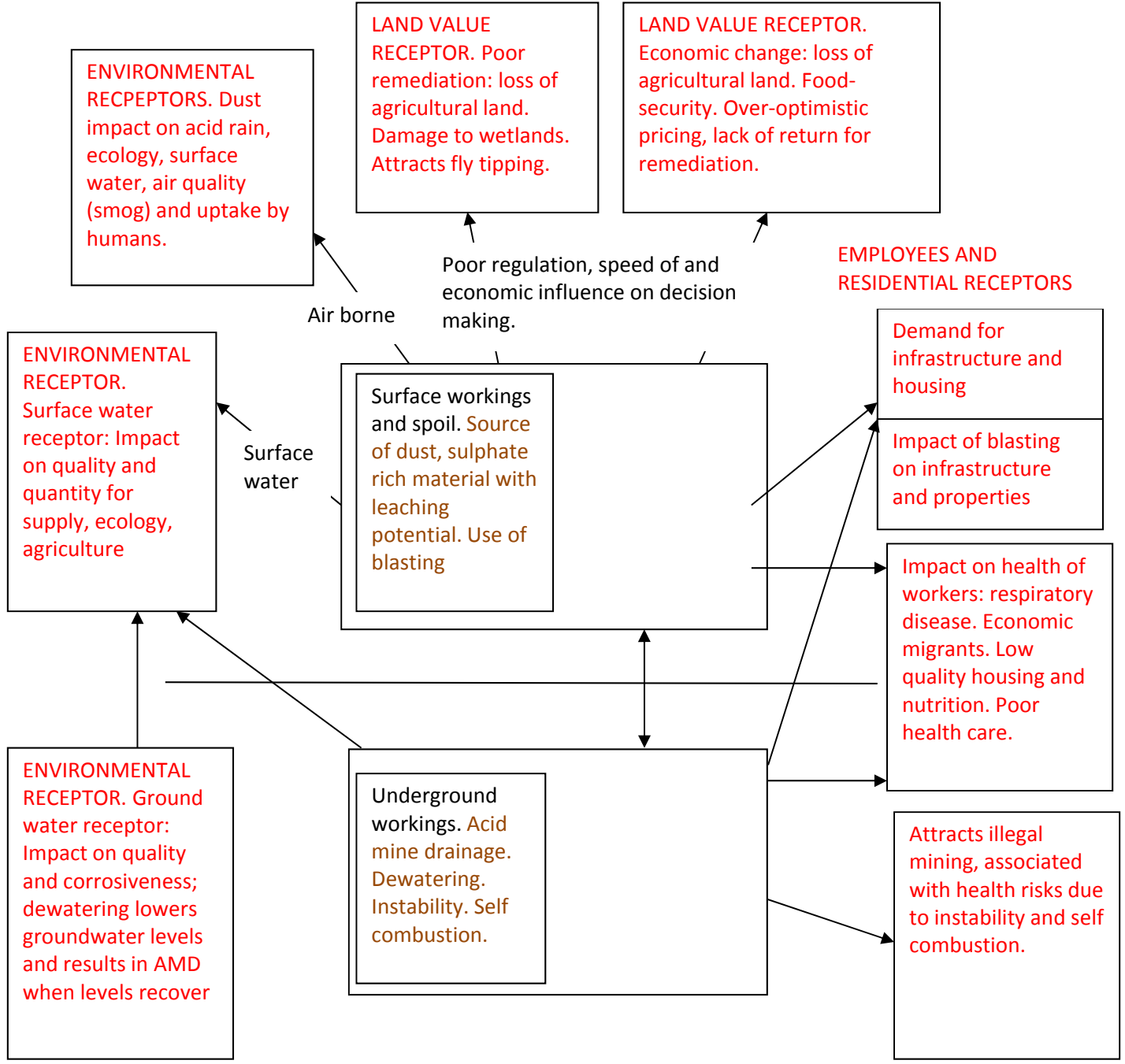
SOURCES

PATHWAYS

RECEPTORS



Regional socio-economic Conceptual Model



ERT Survey Preparation

The site reconnaissance visit was carried out in July 2010

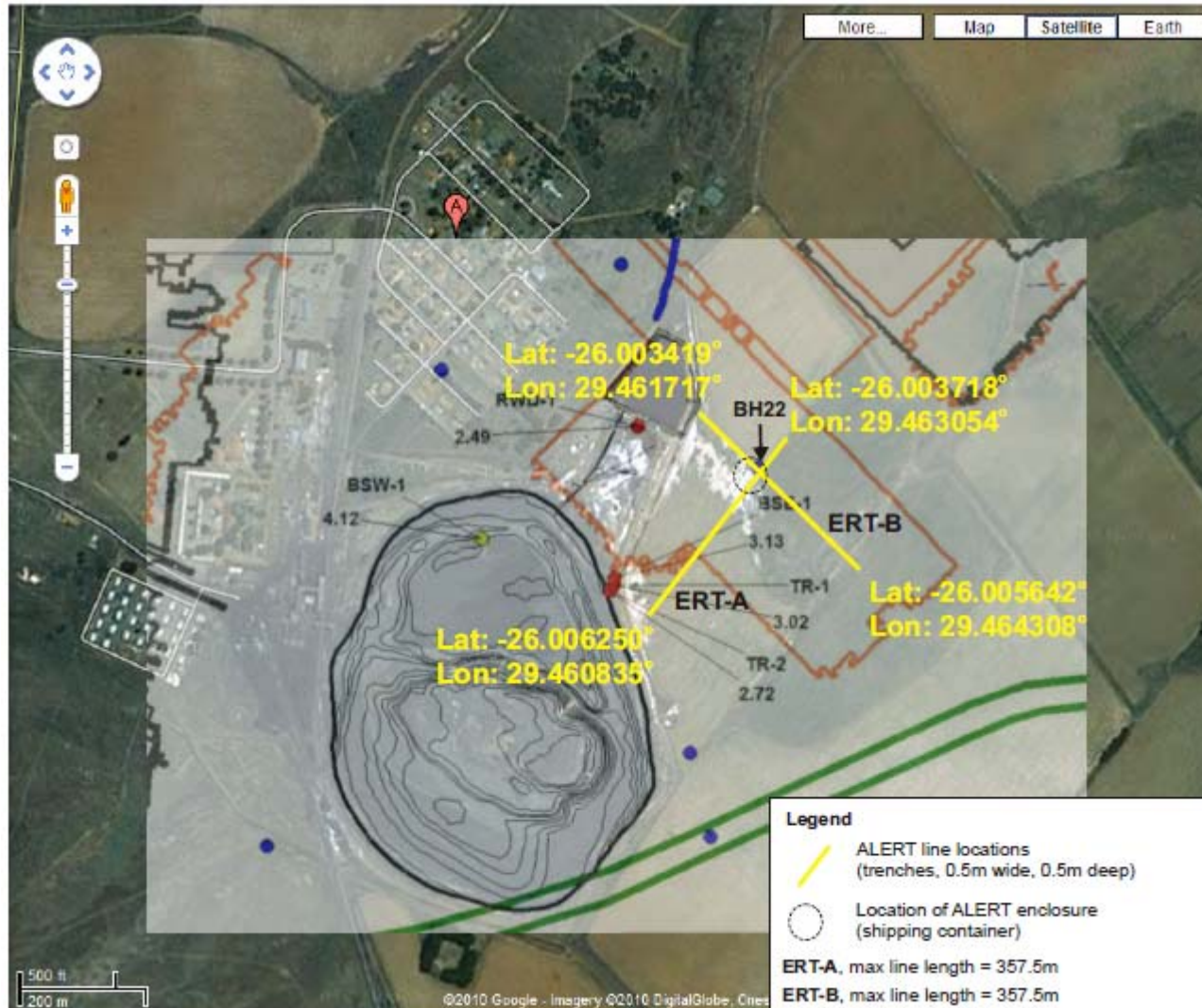


Installation design in advanced stages; locations agreed

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



ERT Survey Lines: Plan v4



Example of results: Saline Tracer Test

