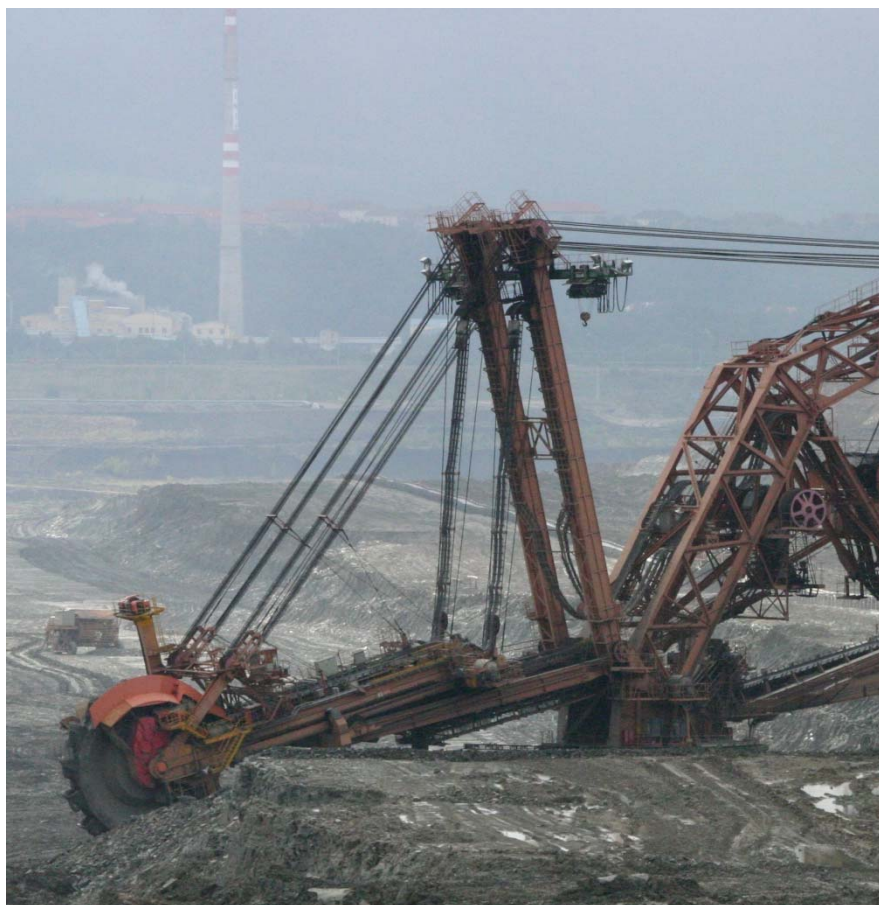




European Technology Platform
on Sustainable Mineral Resources

EO-MINERS

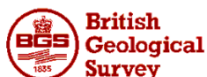


Earth Observation for Monitoring and Observing Environmental and Societal Impacts of Mineral Resources Exploration and Exploitation

WP3 – ongoing work and planned activities

***3rd Management Committee Meeting
Nottingham, July 6 -7, 2011***

Christian Fischer
WP3 leader
German Aerospace Center



Sokolovská uhelná, právní nástupce, a.s.
SOKOLOV



www.eo-miners.eu

1) work completed

relevant activities, not directly focusing on EO data

- DLR has set up a ftp-server, which can be used for EO-Miners to share the relevant project data
- BGS has released the conceptual site models for all sites, the documents are under review, final agreement has to be done
- UVSQ has released a template to describe possible linkage between the list of indicators that have been compiled and RS derived information
- WI suggested a possible link between MFA and RS data, a draft agenda for a workshop for this aspect has been developed
- strategic meeting at SU HQ end of April, draft agenda for the planned workshop with SU experts has been developed, more details are currently discussed between CzechGS and SU – link to WP5 has to be established

1) work completed

Sokolov

- pre-processing and quality control for 2009 and 2010 HS data sets, QC by using cal/val information for the campaigns vs. site related information (data and reports available via ftp)
- generation of DEM for 2009 and 2010 by using CartoSAT data
- processing of the field spectrometer data for 2007 - 2009 (BRGM / CzechGS) and for 2010, library set-up for lab analysis of minerals and soils done by CzechGS, samples from 2010 are currently analyzed by CzechGS
- investigation on minerals and relevant soil parameter to detect AMD related information
- assign ability of identified spectra for all different flight lines
- mosaicking of several flight lines in one step
- test of spectra unmixing routines, based on SVM and taking spatial information of the measurements into account

1) work completed

Witbanks

- ordering procedure for WorldView-II stereo images is still active, no images have been taken due to cloudy weather conditions during the last months
- registration at ESA for ordering CHRIS/Proba data sets
- comprehensive field campaign in February 2011
- pre-processing of spectroradiometric field measurements and library set-up for measurements and additional information, lab analysis by CGS is on-going
- discussions with Henk and Danel about details for airborne flight surveys (hyperspectral and TIR)
- discussion with Danel about CGS' interests for regional information, based HR optical data sets (SPOT)

1) work completed

Makmal

- ordering of WorldView-2 stereo images for Karzaman, images haven been recorded in June 2011. Once formal ordering procedure is finished, DLR will work on DEM generation.
- search for scenes available from SPOT and RapidEye archives, if there is a need for further thematic analysis.
- discussion via Ernis with CAIAG experts about RS interests – detailed DoW is still missing.

2) current activities

Sokolov

- **compiling information from the field surveys for AMD modeling**
- **discussion with TAU and CzechGS about standards for further pre-processing tasks (cross-track illumination, mosaicking, etc)**

Witbanks

- **compiling data and information for further data processing of the different test sites (Witbanks area, parts of the Oliphant river basin)**

Karzaman

- **investigation on availability and usefulness of RapidEye data**

3) difficulties and solutions

Sokolov

- 2010 data might lack of detailed information of AMD-related minerals and weathering products due to rainy conditions the weeks before
- no HyMap flight survey possible in 2011 (DLR NEO sensor in 2012 ?)
- planned TIR campaign includes VIS (CASI) and SWIR (AHS) information, but data quality might be a problem

Witbanks

- useful indicators for the micro and macro level are still not finalized
- time schedule of the planned airborne survey not finalized
- link to measurements of the ALERT system ?

Karzaman

- details of the DOW from CAIAG and KyrgyzAltyn not clear (e.g. water sampling at regular times ?)

4) planned activities next 6 months

Sokolov

- AHS TIR flight survey, pre-processing of the data, generation of a new CartoSAT DEM
- quantitative analysis for the analyzed samples and spectroradiometric measurements => basis for anticipated spatial modeling of AMD-related processes

Witbanks

- analyzing CHRIS/Proba data, hopefully by using the field measurements done in February 2011
- start with DEM generation based on WV-II, once data sets are available
- once useful indicators have been defined, ordering and processing of relevant optical satellite data sets – if needed
- participation in the airborne surveys for field measurements ?

Karzman

- **start working on the generation DEM for the entire area based on WV-II data sets**
- **first field survey is planned for September 2011
(bringing an ASD to KS ? Other field sampling activities ?)**