Site Visit for Greifenhain Lake
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LMBV
Lausitzer Mitteldeutsche Bergbau Verwaltungsgesellschaft  Lusatian
(Central German Mining Administration Company)
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For the course: Brownfield Revitalization
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Introduction

- LMBV is an federally owned company
- Mission - to prepare and sell real estate on decommissioned lignite mining sites in eastern Germany as part of rehabilitation measures designed to ensure their successful future use
- one of four companies set up by the German Treasury to manage, develop and market government-owned real estate
History

- established on 9th August 1994
- at first, LMBV was mainly in charge of management and coordination of the phasing-out lignite mining
- since 1999, the activities have been focused on redevelopment mining
- since 1st January 2007, LMBV has had its main office in Senftenberg in the Lusatian Mining District. Another LMBV office is located in Leipzig, in the Central German Mining District
As project manager of mining rehabilitation, LMBV is responsible for the planning services, procedural management, for all tenders and placings, monitoring and accounting of the project and for proof and documentation of the results.
The tasks of LMBV comprise four main areas

- Accepting responsibility for mining-law matters and elaborating final operation plans
- Participation in the decision-making for rehabilitation of areas used for mining
- Being in charge of mining rehabilitation as the responsible project manager with respect to mining-law including planning, tenders, placing, control and acceptance of rehabilitation works in order to obtain the release from the mining inspection
- Utilisation and marketing of the real property prepared for subsequent use for reintegration into the natural and economic cycle with the purpose of creating new jobs, amongst other reasons
The company goals of LMBV are subject to the following principals

- making former mining areas safe for the public on the basis of mining law,
- economic realisation of rehabilitation measures,
- prompt sale of the real property assets and know-how
- According to the administrative agreement, LMBV makes all measurements
- There were 100,000 hectares of fields with varied conditions that has to be rehabilitated, and the water balance was negatively affected.
- 224 Residual holes of opencast mining and 120 old locations
- 40,000 hectar waste area
- 1200km slope, 420 km Ground Slide risk
- 1230 contaminated area
- 12.7 million Groundwater deficit
170 opencast mine residual holes -> To be lakes
37 opencast mine residual holes -> To be filled
17 opencast mine residual holes -> slope secured
107 of them are already completed..
Averting Dangers which result from rerising of ground water

LMBV as Project manager, should deal with challenges dealt by re-rise of ground waters in former mining areas.

Dewatering in Mining operations endured 150 years long, had a considerable effect on water balance. When mining operations end, water rerised to its pre situation with hazardous effects on surrounding environment.

Therefore, counteracting rehabilitation measures are made by LMBV which are:

- Planning services
- Monitoring
- Geotechnical services
- Hydraulic Systems
- Securing of endangered infrastructure
- Building Security
- Rehabilitation of contaminated sites
Water Management

Lignite mining has left its marks on the region’s water balance. i.e., in order to mine 200 million tonnes of lignite, 1.2 million m³ of water had been pumped out.

In order to restore the water supply which can regenerate itself, it is necessary for Central Germany and Lusatia to refill the water-bearing strata and o.c. mines with 12.7 billion m³ of water. 7.7 billion m³ of water is already filled from external flooding by LMBV.

10 out of 46 o.c. mines are already reached their final level.

Further 28 lakes still remain to be flooded.

Controlled flooding process requires comprehensive legal mining and water permits.

To achieve speedy flooding of the remaining lakes, complex hydrogeological challenges have still to be met.
Site visit

Location
Site visit

Photos

Infront of viprocompaction machine

Inside the company
Site visit
Photos

Discussing
Site visit

Main Problem

Lake

Filling (loose soil)

Ground water table

Main Problem:

- Filling (loose soil)
- Ground water table

Site visit images:

1. Image of a lake
2. Image of a construction site with loose soil
Site visit cont.

Solve the Problem

Lake

Ground water table

Failure surface

Vibro compaction

Location of vibro compaction every 3m
Site visit cont.

Vibro compaction machine in the site

Previous holes location
Conclusion

- Dealing with old mine areas is not an easy task.
- Liquefaction and land slides are two common problems in such areas.
- Vibro compaction was the technique used by the geotechnical engineering to deal with such problems in the visited site.
References

- http://www.lmbv.de/
Thank you