

Consulting  
Engineering  
Studies & Reports  
Project Management  
Project Supervision



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Mining Technology Consulting

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Prof. Dr.-Ing. habil. H. Tudeshki  
Mining Technology Consulting

I studied from 1977 to 1980 at the Mining College of Shahrud (Iran). Following several years of work in the mining industry, I completed my mining studies at the RWTH Aachen, Germany, in 1989. From 1989 to 1992 I was acting as consulting engineer for the international raw materials industry. Since 1992 I was Chief Engineer at the Institute for Surface Mining and Petroleum Engineering at the RWTH Aachen, mainly active in the field of open cast mining and drilling technology. I received my doctor's degree in 1993 and qualified as a university professor in 1997. In 1997 the Venia Legendi (Habilitation) was awarded to me by the RWTH Aachen for the field of "Surface Mining". In November 2001 I was appointed as Professor for Surface Mining and International Mining at the Clausthal University of Technology, Germany. Since then I head the Institute of Mining as director.

Currently, I have about 30 years of experience in my field of activity. I already rendered around 300 international projects for the mining industry, including feasibility studies, project planning, selection and dimensioning of mining equipment, mine optimizations and site appraisements. These projects are managed and executed in my consulting office. Further more, I have published numerous international articles about my research projects. Additionally I am the publisher of the international online mining magazine "Advanced Mining Solutions". My scientific activity in research has lead to more than ten patent applications. Since more than 20 years I give lectures in Germany and offer international courses.



### *In-Field Exploration*

- Geological Reconnaissance
- Exploration of raw material deposits
- Field work



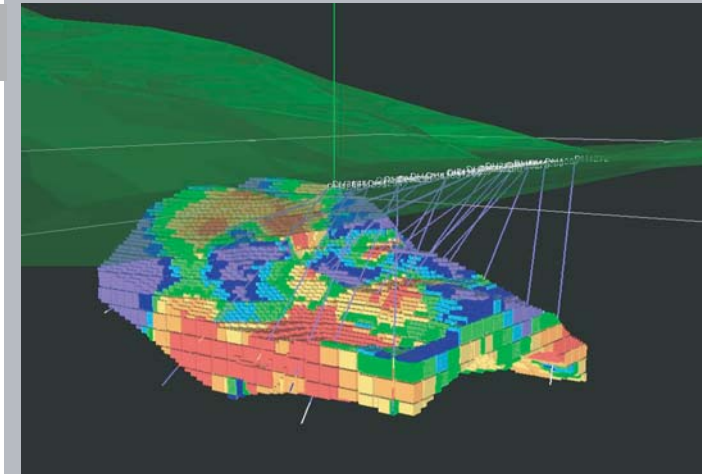
### *Detailed Exploration*

- Core drilling for detailed exploration
- Creation of exploration programs
- Monitoring
- Microscopy and mineralogical analysis



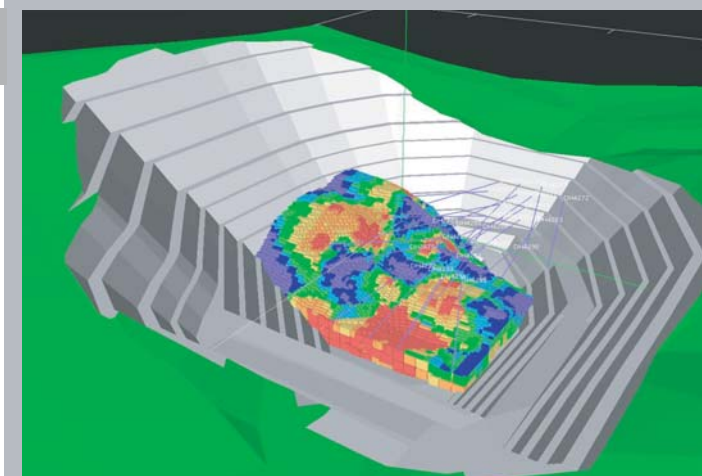
### *Geological Block Modelling*

- Analysis of the exploration results
- Drill core logging
- Computer aided block-modelling of the raw material deposit



### *Open Pit Modelling*

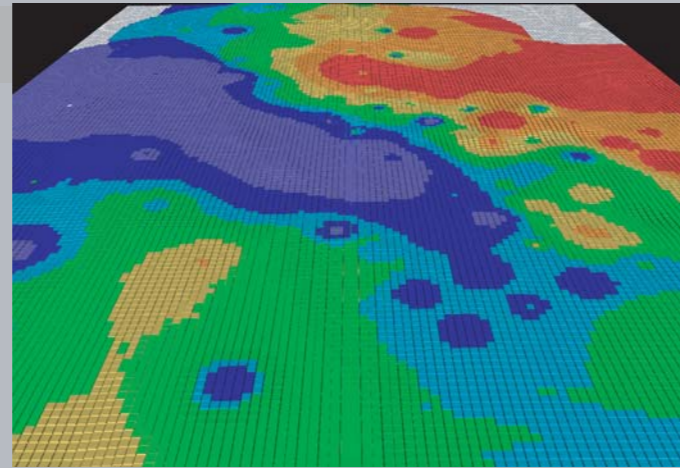
- Computer based integrated geology- and mining model
- Pre-feasibility and feasibility studies (identification of reserves, mine planning, mining technology, economical evaluation)





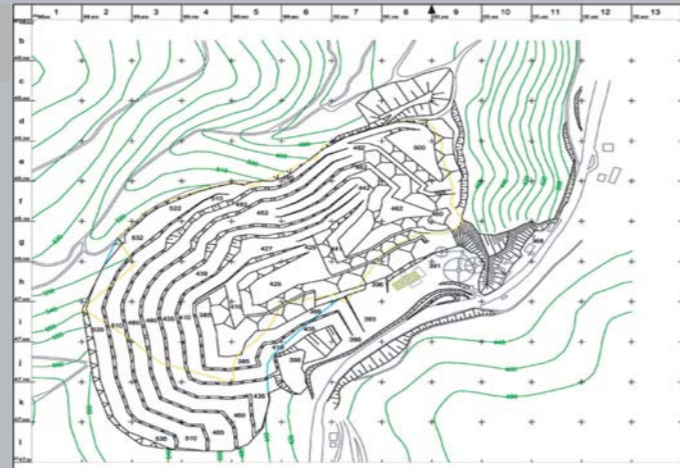
## Model of Raw Material Deposit

- Analysis of geological information
- Creation and visualization of geological models of raw material deposits



## Mine Planning

- Mine licensing procedures
- Protection concepts for the raw material industry
- Computer aided design and project planning of surface mines
- CAD-Drawings and drafts



## Mine Optimization

- Economic calculations and evaluation for open pit mines
- Consulting and supervising



## Visualization

- Computer aided visualization of mining areas and surface mining projects with capable mine design programs (AutoCAD, Datamine, 3DStudioMax)



## Primary Crusher Location

- Optimization concepts and economic calculation of the optimal crusher location in open pit mines (mobile, semimobile and stationary crushers)



## Loading & Haulage

- Selection and dimensioning of mining machinery in surface mines
- Planning and design of transport routes and ramps in open pit mines



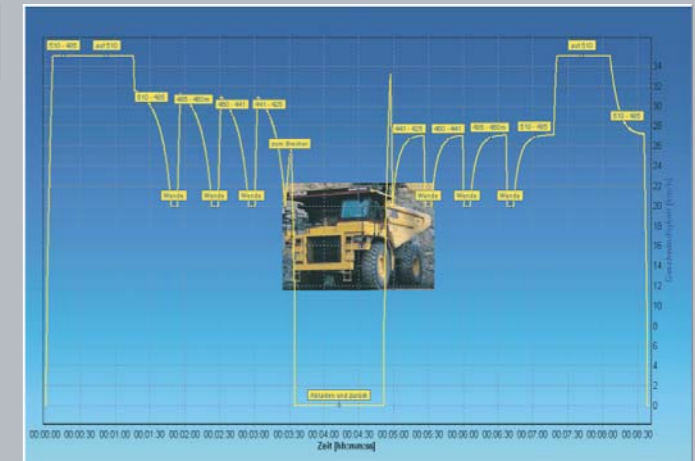
## Continuous Transport Technology

- Concepts for alternative transport systems in the international mining industry
- Dimensioning of continuous transport technology for bulk materials handling



## Process Optimization

- Computer aided optimization of mobile earth-moving equipment
- Cost calculation and economic evaluation of load and transport machinery
- Optimization and planning of operating processes





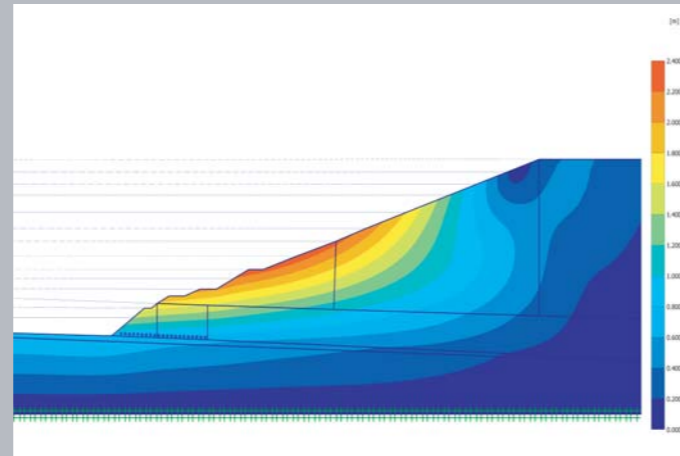
## Selection of Processing Equipment

- Crushing and screening equipment
- Mobile, semi-mobile and stationary crushers
- Processing plants



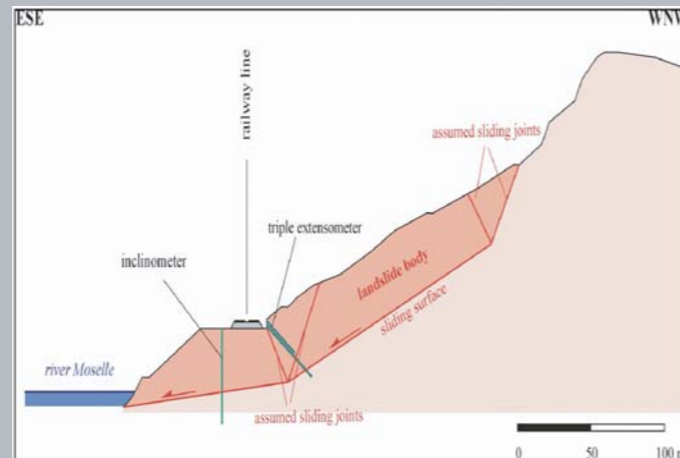
## Slope Stability

- Investigation on soil parameters and calculation of optimal slope angles
- Safety concepts and project planning for slopes and benches



## Slope and Bench Monitoring

- Monitoring with geotechnical measuring equipment
- Implementation of geotechnical early-warning systems (surface and bore hole extensometers etc.) and teaching
- Data assessment



## Advanced Drilling Technology

- Technical and commercial consulting & development
- Engineering and project supervision
- Planning and design of HDD- and Microtunneling projects
- Optimization of drilling process



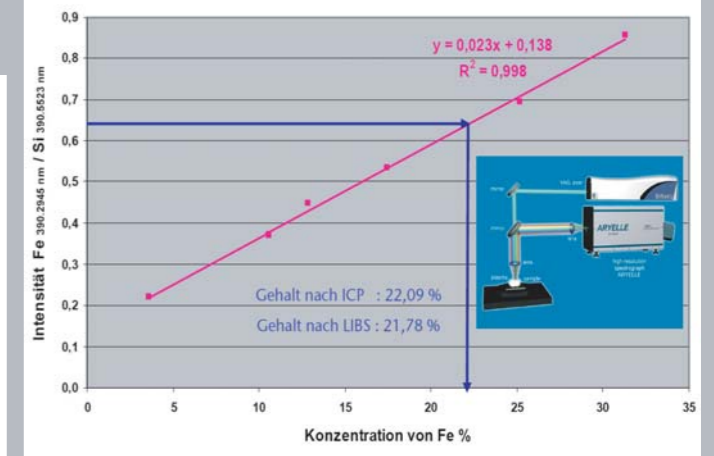
## Compact Courses

- Compact courses and lectures for the international mining industry regarding to mining methods and technology



## Research & Development

- Reduction of the drilling complexity in the exploration of raw material deposits by using Laser-Induced Breakdown Spectroscopy (LIBS) during the drilling process



## Technology Transfer

- From Computer-aided Planning to field application

PASSES TO LOAD	5000 100 TON, 100 H	6000 100 TON, 100 H	8000 100 TON, 100 H	10000 100 TON, 100 H	12000 100 TON, 100 H	14000 100 TON, 100 H	16000 100 TON, 100 H
5000 100 TON, 100 H	5	6	5	3			
6000 100 TON, 100 H	6	8	6	4	3		
8000 100 TON, 100 H			7	5	4		
10000 100 TON, 100 H				6	4		
12000 100 TON, 100 H					8	5	3
14000 100 TON, 100 H							7
16000 100 TON, 100 H							
18000 100 TON, 100 H				9	7	5	3
20000 100 TON, 100 H					10	7	5
22000 100 TON, 100 H						11	8
24000 100 TON, 100 H							

## Drilling & Blasting

- Research into the optimization of blasthole drilling
- Cost calculation and planning of blasting and nonblasting mining methods

