The 1998 Lassing Mine Disaster in the Rear View Mirror

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1998 Lassing Mine Disaster

- In 1998 a disaster occurred in the Lassing talc mine in Austria. After a heavy water and mud inrush (~7.000 m^3) into the upper parts of the mine around midday, one miner was trapped; the others had already been evacuated according to the emergency plan. A second mud inflow in the evening (~70.000 m^3) buried ten miners engaged in support work. Only the first trapped miner could be saved.
- This event generated tremendous media coverage leading to a disaster related tourism of thousands of people. For some weeks the entire nation followed the news on tv, radio and print media and prayed for rescue of the buried miners.
- The main cause for the disaster was detected to be the failure to maintain a sufficient barrier to saturated ground.

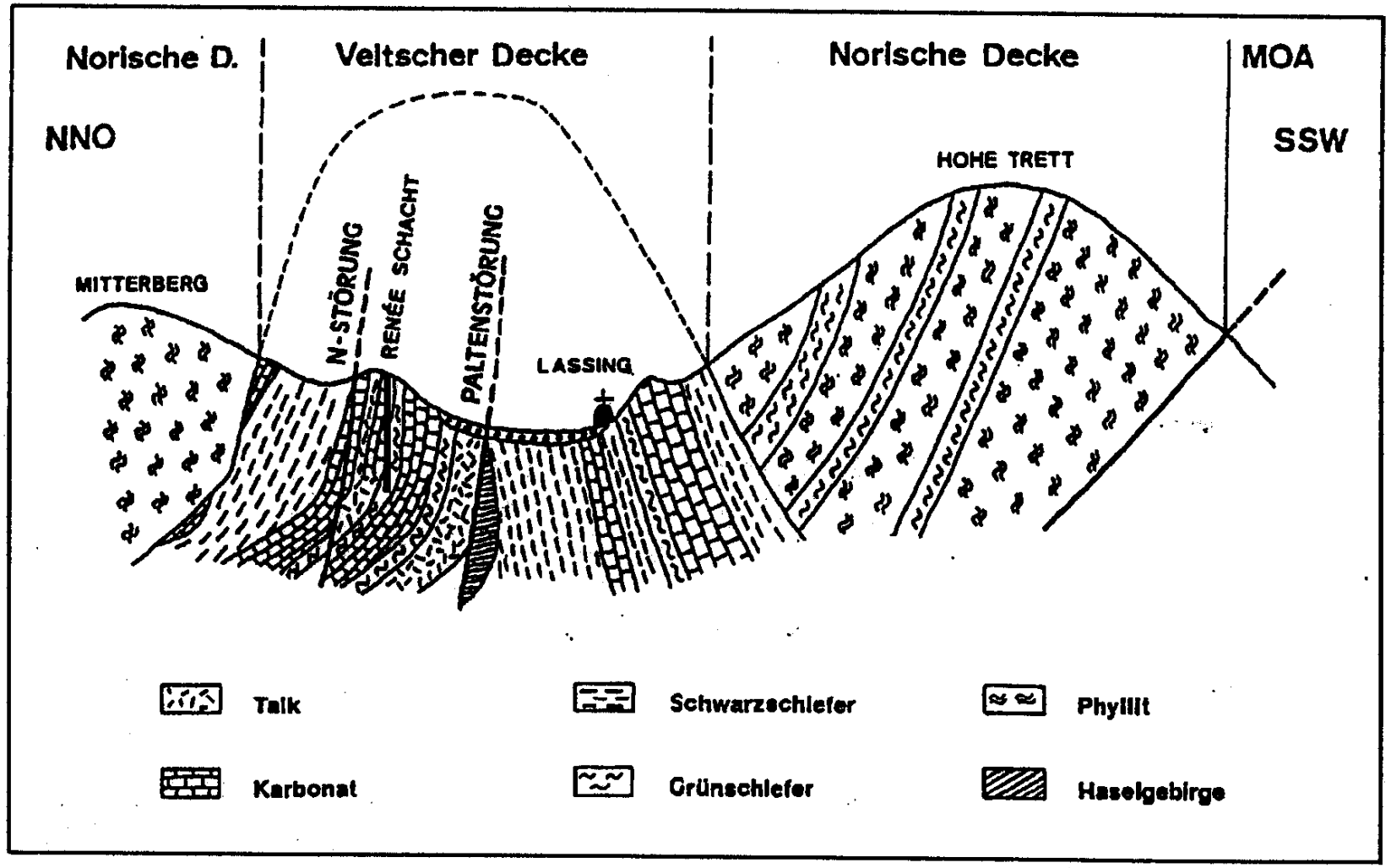
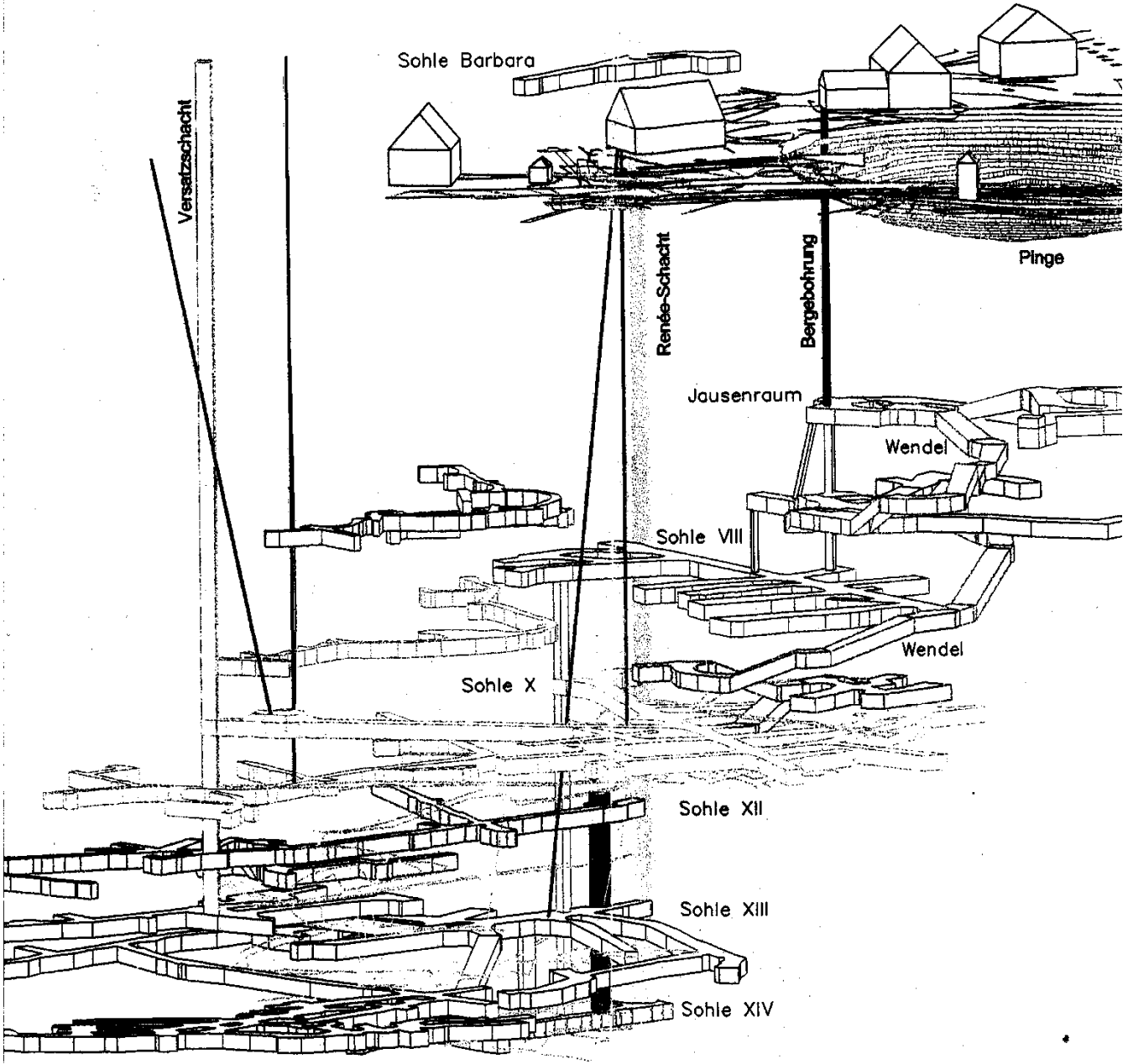


Abbildung 1 b
Geologisches Profil durch die Grauwackenzone im Bereich der Lagerstätte Lassing[2]
(verändert nach Tollmann)


Sohle Barbara
Versatzschacht
Renée-Schacht
Bergebohrung
Pinge
Jausenraum
Wendel
Sohle VIII
Wendel
Sohle X
Sohle XII
Sohle XIII
Sohle XIV

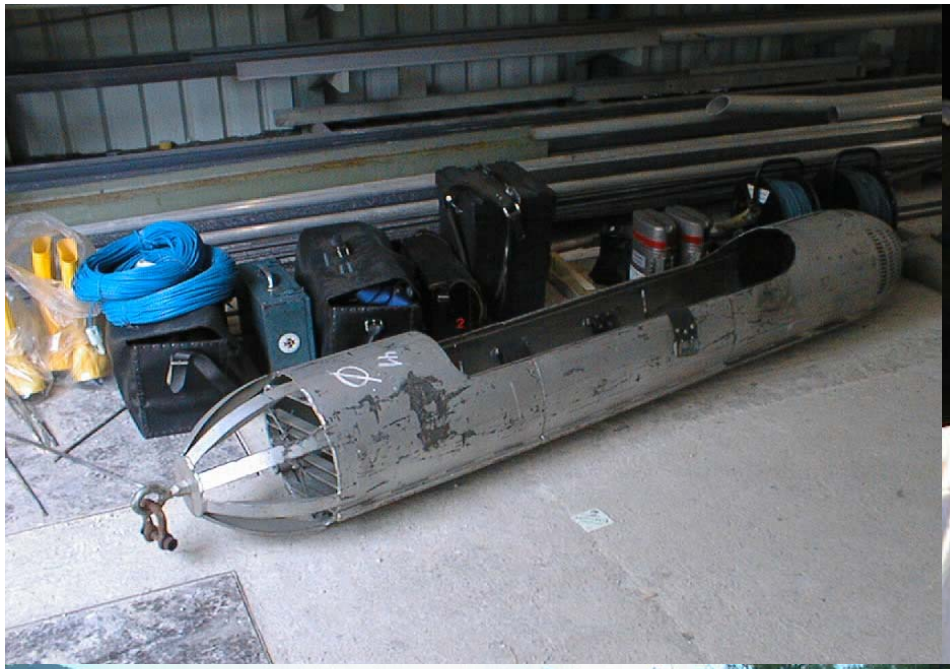
After the first inrush (~7.000 m^3)

1998 Lassing Mine Disaster

- The entire mining workforce returned to site to assist in the rescue. Company officials came from Graz, the headquarters of Naintsch, and officers from the Provincial and Federal Mining Authorities arrived from Leoben and Vienna.
- By mid-afternoon the site was swamped with the media, representatives of various authorities, fire brigade officers, local community members, police, friends and the family of the trapped miner and the rescue miners and general onlookers.
- All in all, some 700 people were at or around the mine site.


After the 2nd inrush
(~70.000 m3)


NEWS
NEWS



Some remarks

- Maybe sources of danger and causes of errors and mistakes remain unknown. In order to be able to build up an inventory of experience from past errors, it must be possible to report mistakes without fear of penalty.
- Systematic risk management can reduce the probability of an incident occurring and can have a positive influence on the severity of an incident. It is, however, impossible to completely exclude danger and it is therefore necessary to find ways of coexisting with danger.
- Careful evaluation of hazards and the specification of safety measures and their documentation seem appropriate.

Some remarks

- Deviations from originally excellent plans….
- As a mine gets older, there is less degree of freedom….
- Critical zones with stress concentration - pillars and edge zones…
- Excellent escape routes are helpful….
- The probability of occurrence should not be given too much weight, as risk is largely determined by the **energy** stored in the system (to cause disasters) and the **dynamics** of the incident.

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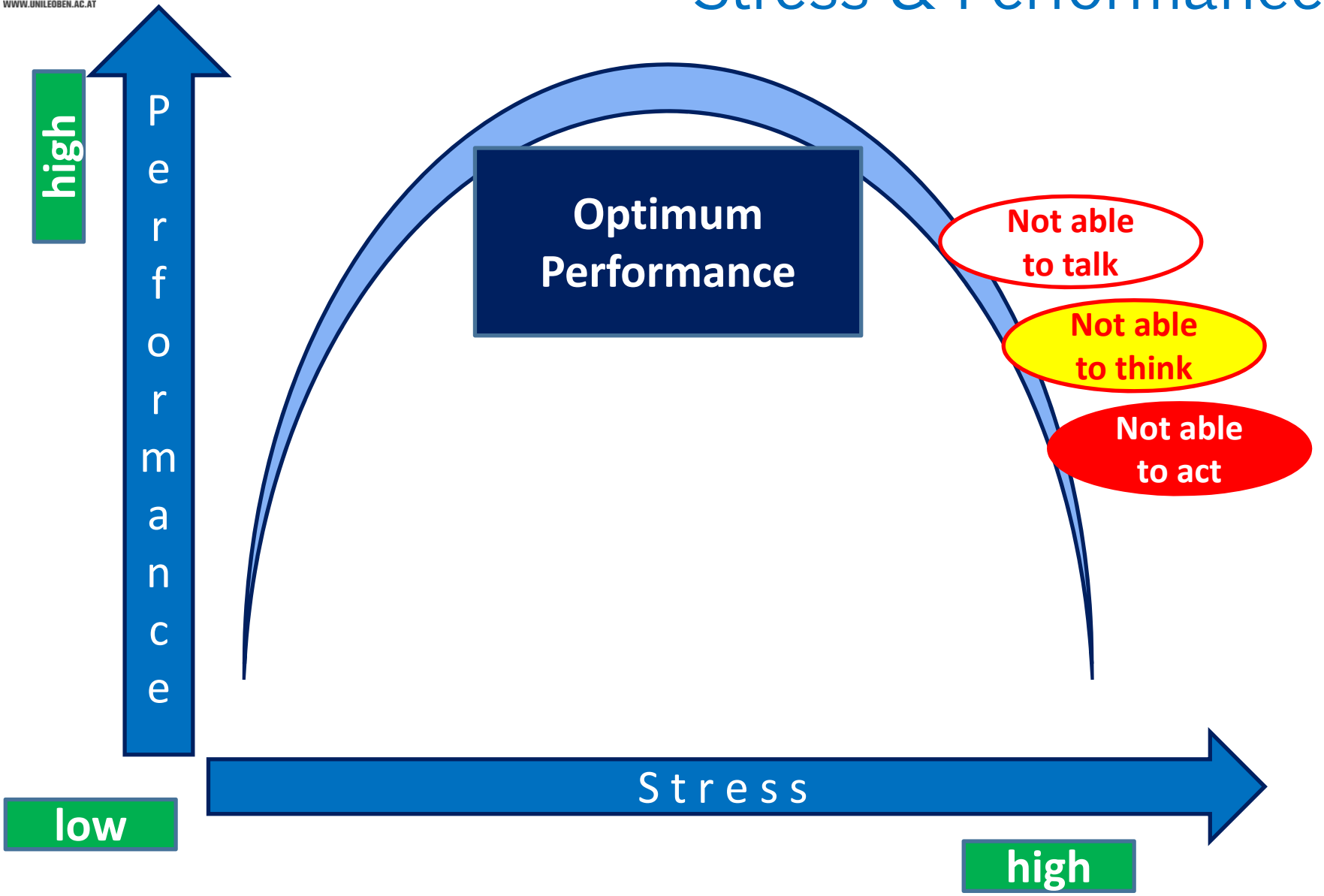
Some remarks

- Due to the dynamics and complexity of the situation the first hours of a crisis are the most dangerous. But people tend to engage in particularly risky activities in dangerous situations.
- The features of a mining disaster include a potentially dynamic risk situation, a worsening of the situation has to be expected.
- When an inflow of water occurs, the displacement of air by the incoming mass is of considerable significance and it is not easy to predict where and how (pressure and quantity) air bubbles will form in the mine. High points in the mine represent possible locations of air bubbles. They can be located as theoretical chances and tested in practice by drilling.

Some remarks

- The outbreak of chaos at the start of a crisis is normal. The goal is stop the chaos, establish a crisis management and achieve an overview of the situation.
- When a certain stress level is exceeded, the performance of humans sinks rapidly and faulty perception and blocked thought processes caused by emotional reactions, lead to inevitable mistakes.
- The collapse of communication and incomplete, mistaken or false information should always be expected.
- It should be assumed that the affected organisation will be put into a "state of emergency" by a crisis. There should be a division into the area "business as usual" and the area "crisis management".

Stress & Performance




Societal mastering of the emergency
Mastering the emergency as such
Establish inner areas
Blocking the hazardous areas
Stop the chaos!
Provisory emergency manager
Curious onlookers
Internet "comments"
VIP partners
Internet "being online"
Lawyers
Donators
Media
Not required helpers
Politics
Neighbours
Prosecutor
Employes
Criminalists
Lawyers
Friends
Authorities
Relatives
Experts
Experts
Economic mastering of the emergency
Rescue staff
Support offers
Procurement
Financing
It is excellent progress, when it is not getting worse!
Please stay modest, it is risky enough, crisis management can be more than risky!

„It is true to say that
the occurrence of the improbable is probable “
(Aristoteles)

Good risk management
should avoid
risky crisis management!

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mining engineering
mineral economics

Glück auf!

Glück auf!

.....is more than good luck!

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