

# Scoping Study Process

- Survey of mines currently using gas drainage and/or Outburst Management Plans
- Outburst Research Needs Workshop attended by 20 invited operations leaders, regulators and researchers, and
- Discussions with experienced individuals.
- Survey of mines, technical staff, researchers, consultants and government personnel regarding their perceptions of the needs for research, development and application,

# **THE COST OF OB MANAGEMENT**

Most Australian mines successfully drain gas to below the threshold limits for safe mining.

Approximately 370,000 m of drainage holes drilled per year at a cost of around \$37M.

Where drainage is not successful, grunching or other means of mining has to be conducted adding say an extra \$10M per year.

Outburst avoidance by the Australian coal industry is expensive, effective but not very cost efficient.

# OB Management Basis

Gas content is the basis for management

There is an abundance of gas content data

There is a serious lack of other data

Current outburst management is based on only one parameter - **gas content**.

**This is poor science.**

# OBMP FAILURES

In recent years, 5 outbursts have been recorded.

4 occurred as failures of the OBMP's

- 2 unexpected on a longwall face at West Cliff,
  - 1 on a dyke at Appin,
  - 1 on faulting at Central and
- 1 controlled OB on remotely mined face at Tower.

# OB RESEARCH NEEDS 1

Review and specify the outburst mechanism and the roles of the various parameters.

The parameters must be practically measurable.

Once the researchers have defined the OB mechanism, it will have to be communicated to all players.

# **OB RESEARCH NEEDS 2**

Understand the (structural) conditions which cause zones of poor drainability or drillability and which therefore, increase outburst proness, and to confidently locate these zones with adequate response time.

# **OB RESEARCH NEEDS 3**

Develop and apply tools (methods) to rapidly, efficiently, and preferably economically reduce gas content/pressure as a routine and as a last resort.

# Seminars/Workshops

Technical staff at the mines also place a high priority on the need for:

Continuing gas and outburst seminars,

A web site with

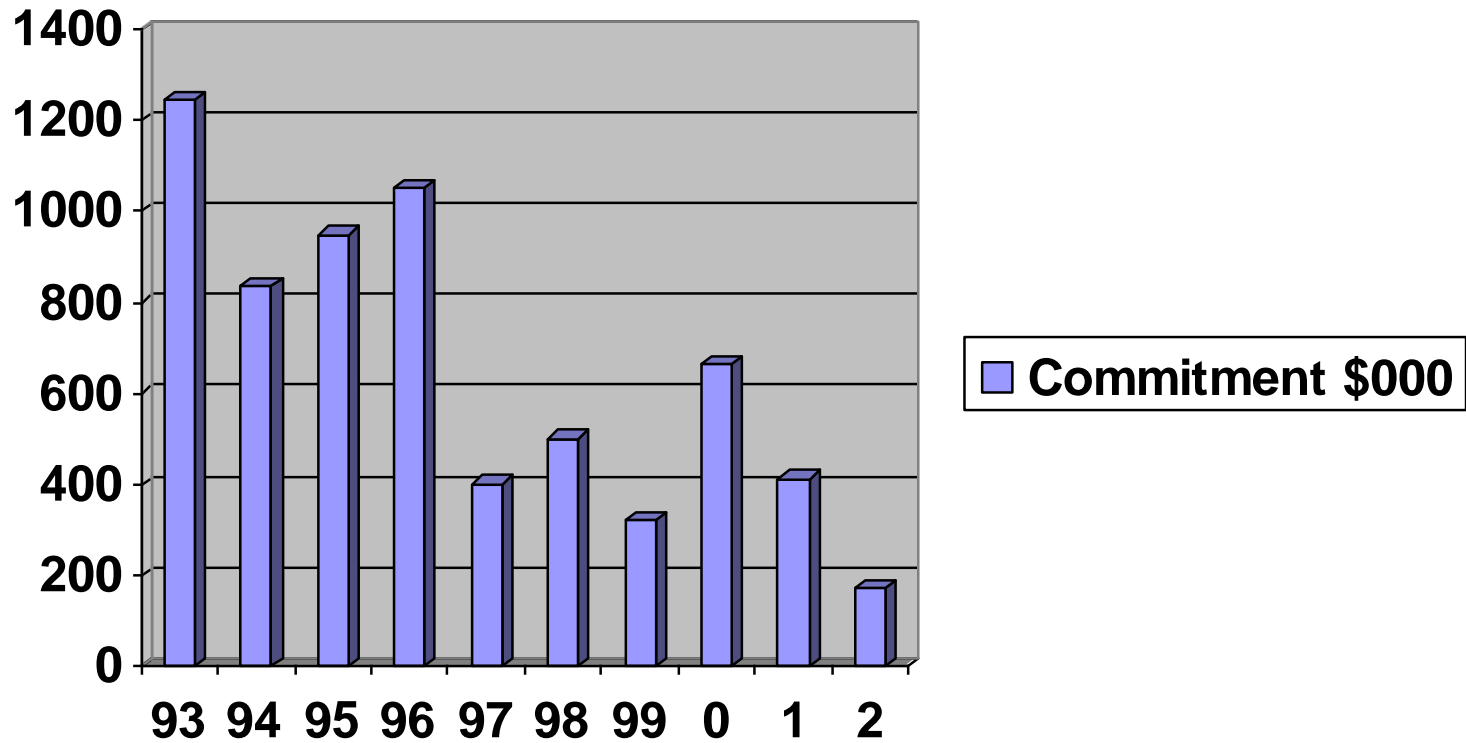
Papers on gas and outbursts and

A forum for active discussion and debate and refinement of procedures.



# ACARP GAS/DRILLING RESEARCH

\$



# **To Improve the Reliability of Structure Detection**

Use automated drill rig monitoring on each drill rig

Use a monitored rotary drill

Support a trial of the Sibra torque/thrust tool

Trial the CSIRO dielectric tool

Trial the Lunagas/AMT drill fluid logging system

Trial the Sibra bore pressurisation system/sampler

Instal piezometers or packers to demonstrate that gas pressure gradients are benign.

# Ownership

Longer term goals can only be achieved if mines take ownership of the necessary R&D and conduct their own investigations and measurements of gas and outburst parameters.

ACARP, researchers and service providers can assist, but active and enthusiastic mine site support is required as is mine site innovation.

# Who Has the Time?

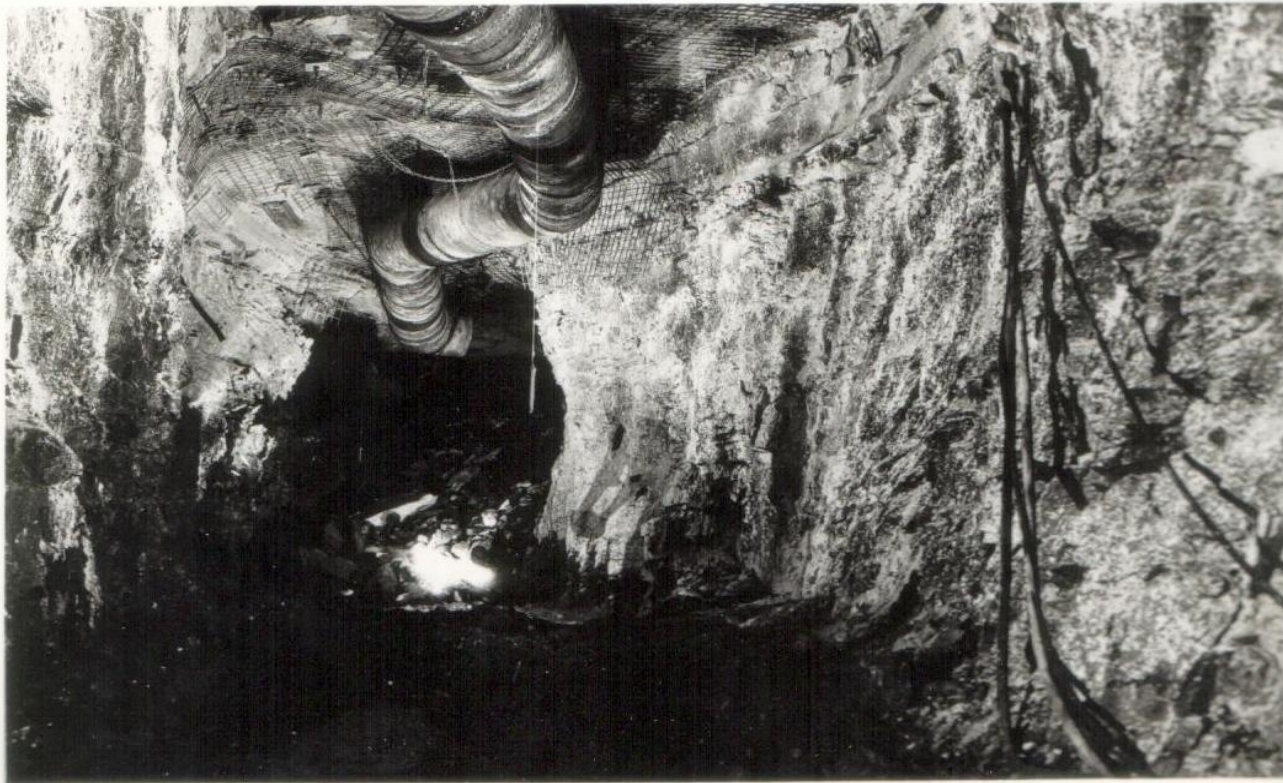
Lack of time to think, analyse etc surely is a symptom of one of the prime problems facing OB management and other aspects of mining.

If personnel lack the time, encouragement or resources to fully analyse problems, including collecting appropriate data, they will act on instinct or gut feelings and this can be **fatal** in respect to outbursts.

# Outburst Aftermath



500 tonnes + 2 young men



Comments by Alan Fisher  
to June 2003 OB Seminar