



SPECIFIC ISSUES OF CMM DRAINAGE in DEEP MINES OF KARAGANDA COAL BASIN



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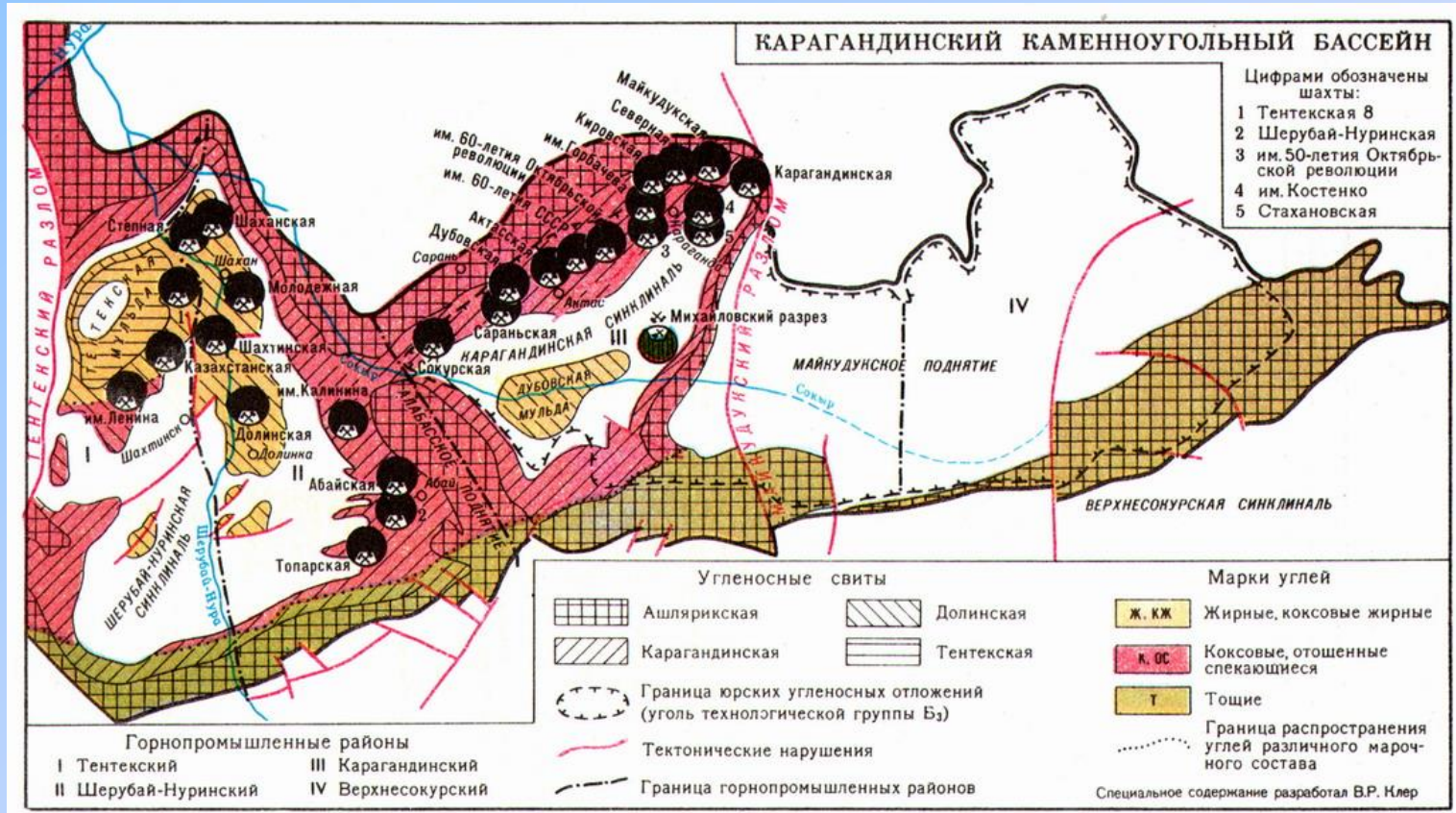


Key factors of Kazakhstan energy economy

- **Kazakhstan is one of the main coal producers in Central Asia and FSU region**
- **Kazakhstan is the main coal exporter to Russia and Central Asia industrial regions**
- **More than 70% of Kazakhstan energy needs rely on domestic coal**
- **Kazakhstan Metallurgical industry bases mainly on domestic coal (80%)**
- **Social energy consumption of the Central and Eastern Kazakhstan regions rely on coal based power generation**
- **Coal production in 1999 was 58 mln.ton and grown to 109,2 mln.ton in 2020**



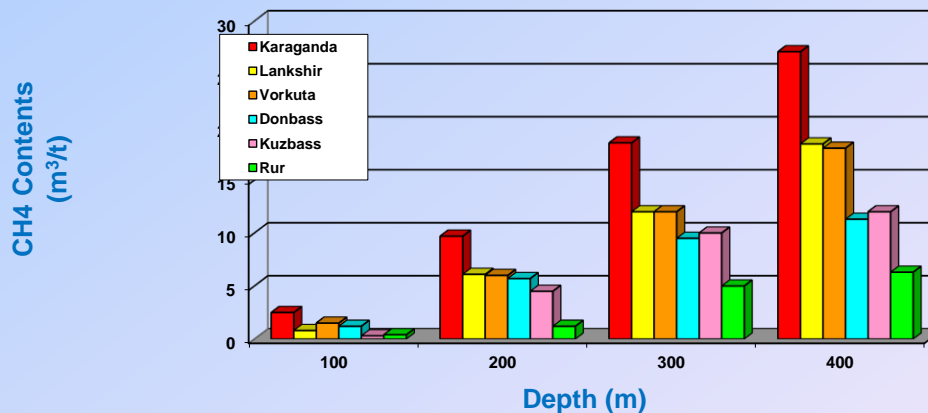
Karaganda coal basin



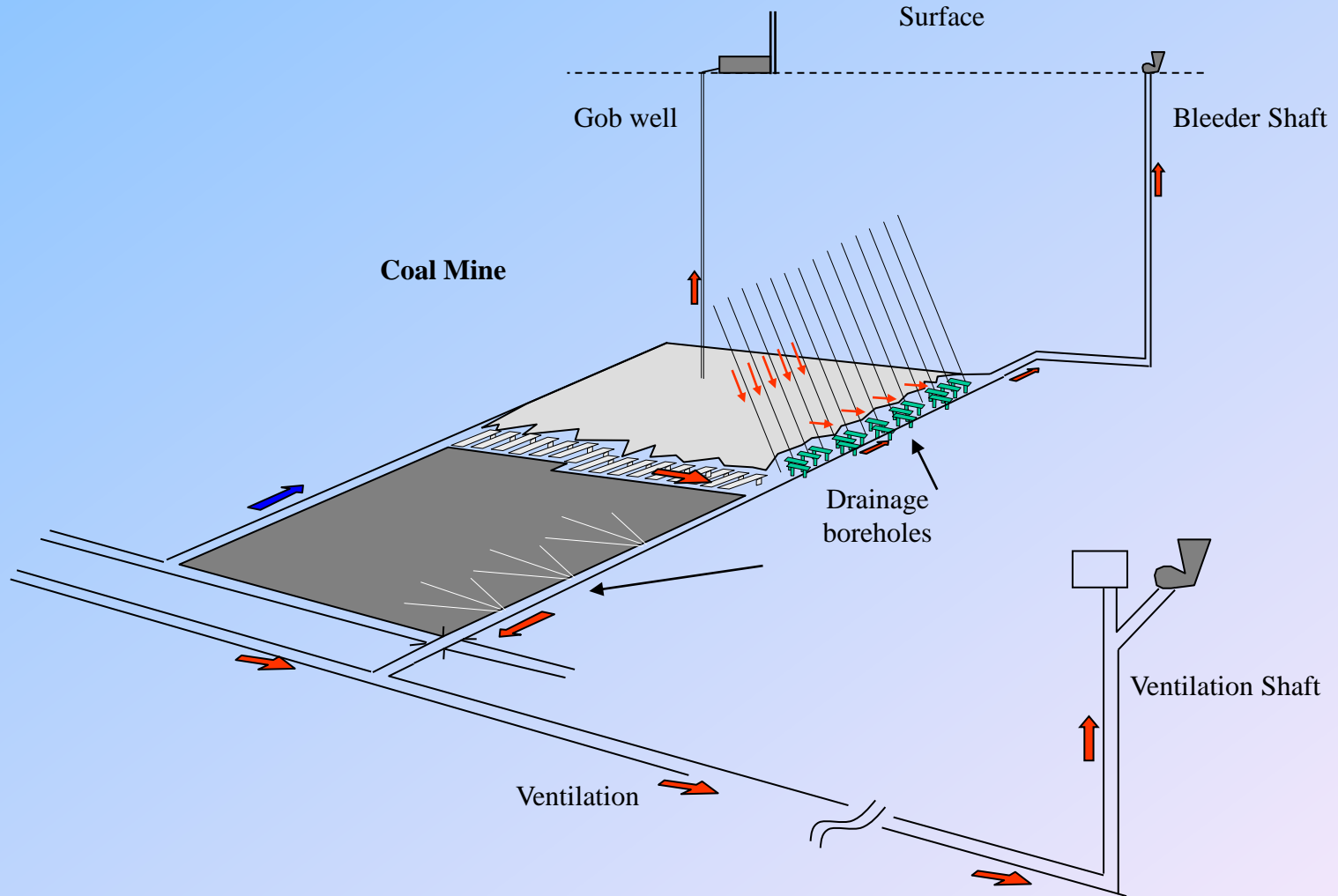
Main features of Karaganda basing coal seams

- High coal saturation
- High inherent gas content
- Low permeability
- High risk of coal and gas outbursts

Gas content comparison, coal basins

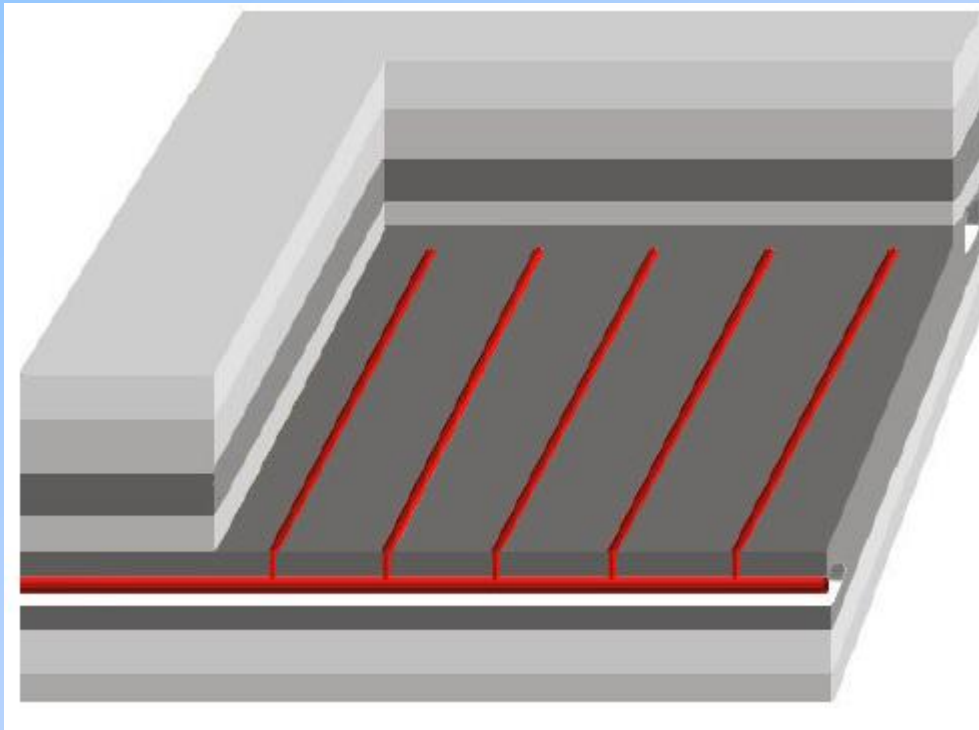


CMM drainage methods applied

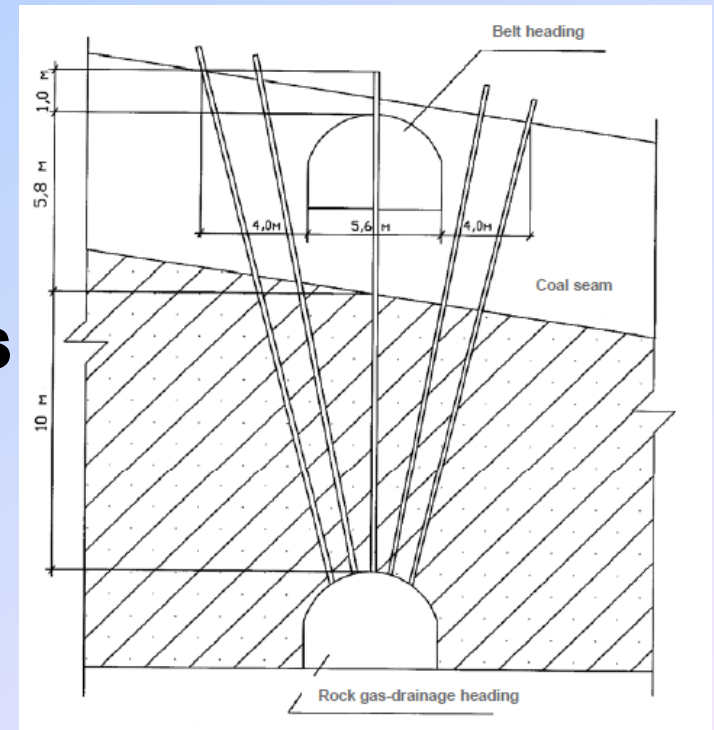


Pre-draining high-gaseous coal seams

- Low efficiency of in-seam boreholes
- High cost of drainage galleries



vs



Courtesy of Baimukhametov S.K.





Possible application considered

- **Directional wells from surface for pre-draining in advance (1-more years)**
- **Subsurface steered wells for local drainage prior and while coal mining**
- **Improvement of in-seam pre-drainage boreholes housekeeping (sealing, vacuum adjusting, etc.)**





Thank you!



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