



*Inflammation of methane  
and accident with multiple casualties  
(3 deadly and 11 remaining),*

*5 th of May 2011*

*UNDERGROUND COOL MINE „KRUPIŃSKI” in SUSZEC  
part „ŚLĄSK”*



# STATE MINING AUTHORITY



**Underground Coal Mine „Krupiński” placed in  
Suszec, belongs to Jastrzębska Spółka  
Węglowa S.A. in Jastrzębie Zdrój  
– one of the main mining company in Poland**



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Characteristic of the mine:

- Mining works are realized in the range of depth between 420m – 1020m.
- There were employed about 2250 workers underground in 2012.
- Average daily output – **8,5 thousands** tons.
- Mine field - 27,2 km<sup>2</sup>



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## Hazards:

- rock – burst hazard – III degree (highest)
- methane – explosion hazard – IV category (highest)
- coal – dust explosion hazard – B class (highest)
- fire hazard - III group
- water hazard - I degree
- harmful dust hazard - B class (highest)



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The longwall N-12 was launched on 12th of April 2011 r.

- length - **217m ÷ 224m**
- height - **1,8 ÷ 2,4m**
- playground - **810m**
- angle of hade longwall - **8° ÷ 16°**
- rate of face advance - **5,0 m/day**
- saleable output - **2500 Mg/day**

The exploitation was led with the caving system







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The inflammation of methane in longwall N-12 in seam 312 on the level 820m happened on 5th of May 2011, at 7.45 p.m. while the exploitation was leading.

There were 39 workers in the zone of the direct threat.

**14 miners became injured in the result of this event.**

**3 miners were fatally injured.**





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The rescue action, consisting in the limitation of the methanated threat in region of the wall N-12, was led by the rescue hosts of own miners, neighbouring mines and the hosts of The Central Mining Life-saving Station and The Regional Life-saving Mining Station in Bytom, Wodzisław.





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The local vision was conducted in the place of the event on 25th of October 2011, with part of the representatives of State Mining Authority and District Mining Office, public prosecutor's office, employer and the members of Special Commission appointed on 11th of May 2011 by President of State Mining Authority for examining causes and the circumstance of the event.



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There were 4 Working Groups in the Commission appointed in the aim of the explanation of causes and the circumstance of the event:

- **Team 1** - course and the opinion of the rescue action.
- **Team 2** – analysis of way of airing and fire hazard in region of the longwall N-12 in layer 312/<sub>1</sub>,312/<sub>1-2</sub>.
- **Team 3** – the analysis of the methane threat and gas protections in region of the longwall N-12 in layer 312/<sub>1</sub>,312/<sub>1-2</sub>.
- **Team 4** – evaluation of thermal stress and physiological responses of the persons involved.



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In the result of the works of The Comision as the source of inflammation of methane, following causes were excluded:

- blasting operations,
- welding operations,
- spontaneous fire ,
- applying chemical materials,
- mechanical or electrical sparks.

**The Commission completed its work on January 2012**



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**Work results, studies and expert opinions, analyses of witness reports, collected evidence and results of on-site visits were useful to elaborate the causes and circumstances of the occurrence, as well as to draw conclusions in order to avoid such accidents in the future.**

- The direct cause of the catastrophe was methane accumulation in waste area.
- The Commission identified the need for monitoring the presence of methane under the chain conveyor.

**We have at the design stage to draw attention to the state of rock mass**





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**Thanks for your attention**  
Roman Sęsiadek