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论文

红柳煤矿大采高综采覆岩“两带”高度的综合探测

孙庆先, 牟义, 杨新亮

煤炭科学研究总院 矿山安全技术研究分院, 北京 100013

摘要:

为获取软覆岩综采一次采全高工作面“两带”高度,以神华宁煤集团红柳煤矿1121工作面为例,综合运用地表钻孔冲洗液漏失量观测、钻孔彩色电视观测和井下瞬变电磁法物探3种技术手段,对采空区上覆岩层“两带”高度进行了探测。综合探测结果表明:缓倾斜(煤层平均倾角8.5°)、厚煤层(采高5.0 m)、软覆岩,综采一次采全高工作面垮落带高度为煤层厚度的8.55倍,导水裂缝带高度为煤层厚度的12.51倍。3种探测技术手段都是对“两带”高度的直接观测,但在精度上存在较大差异:钻孔彩色电视观测最优,可精确到米级以内;钻孔冲洗液漏失量观测次之,可以获得较为精确的数据;瞬变电磁物探观测最差,仅能确定大致的范围。

关键词: 大采高综采; “两带”高度; 钻孔冲洗液; 钻孔彩色电视; 瞬变电磁法

Study on “two-zone” height of overlying of fully-mechanized technology-with high mining height at Hongliu Coal Mine

Abstract:

For the purpose of exploring “two-zone” height of soft overlying strata working face, taking Shenhua Ningxia Coal Industry Group Hongliu Coal Mine 1121working face as an example, three kind of technological method to explore “two-zone” height were used.Three method were loses of drilling fluid measuring, borehole wall observing by colour TV and transient electromagnetic method(TEM) geophysical exploration.On condition that the coal mining technology is fully-mechanized and fully-seam caving mining and the seam is slightly-tilt, thick and the overlying strata is soft, comprehensive research show that the caving height is 8.55 times the thickness of the coal seam, and the height of permeable fracture zone is 12.51 times the thickness of the coal seam.Three techniques have great difference in accuracy though they are the direct observation.Authors conclude that borehole colour TV is the best, loses of drilling fluid measuring is next, TEM geophysical exploration is the worst.

Keywords: fully-mechanized mining technology with high mining height coal-mining method; “two-zone” height; loses of drilling fluid; borehole colour TV; transient electromagnetic method

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通讯作者: 孙庆先

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