

Title (en)
SYSTEM FOR IN-SITU HARVESTING OF DEEP-SEA HYDROTHERMAL METALLIC SULFIDE DEPOSITS

Title (de)
SYSTEM ZUR IN-SITU-GEWINNUNG VON HYDROTHERMALEN METALLISCHEN SULFIDABLAGERUNGEN IN DER TIEFSEE

Title (fr)
SYSTÈME DE RÉCOLTE IN SITU DE DÉPÔTS MÉTALLIQUES SULFURÉS HYDROTHERMAUX EN EAU PROFONDE

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Abstract (en)
The present invention provides an in-situ harvesting system of a deep-sea hydrothermal metallic sulfide deposits. The system comprises a well casing (10), a well head control flow guide device (9), a fluid mixing control hood (3); the well casing (10) is penetrated into a hydrothermal metallic sulfide deposit mound body (12) comprising a confining layer (13), a hydrothermal fluid enriching layer (14) and mound body bedrock (15) in turn from the outside to the inside; perforations (11) are formed at the casing wall of the well casing (10) that is positioned at the hydrothermal fluid enriching layer (14); the well head flow control device (9) is provided at the top of the well casing (10); a lower opening is formed at the bottom of the fluid mixing control hood (3); the lower opening is sleeved on the four sides of the top of the well casing (10); an upper opening (4) is formed at the top of the fluid mixing control hood (3); a plurality of fluid holes (6) are formed at a lateral wall of the fluid mixing control hood (3); and a sulfide coating (5) is applied to the inner wall of the fluid mixing control hood (3). The present invention has the beneficial effect of making full use of natural factors to cultivate deep-sea hydrothermal metallic sulfide deposits so as to reduce exploitation cost and avoid environmental pollution.

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