

Robert D. Ballard
Director

December 31, 1990



Mr. William Aldorfer

Dear William,

We found only one of BISMARCK's turrets and it was buried upside down in the mud. We could only see it's interior, not exterior.

As far as the "smoke bubble" concept is concerned, BISMARCK would have already reached the bottom of the ocean one hour after its sinking. At those depths the pressure is about 8,000 pounds per square inch. All of the air volume inside BISMARCK would be compressed into a small bubble. However, if such air bubbles did escape from the ship, even during its fall to the ocean floor, they would expand as they rose toward the surface.

We have vented gas from our deep diving submarine at depths which rose back to the surface, growing in size to form a large bubble which then broke the surface. I would think it is possible for a smoke bubble to escape from BISMARCK and then rise back to the surface and erupt at the surface as a smokey discharge. This, I would think, could take place long after the ship sank.

Hope these comments help.

Sincerely,

A handwritten signature in black ink, appearing to read "R.D. Ballard", written over a white background.

Dr. Robert D. Ballard, Director
Center for Marine Exploration

RDB:gam

