From: Harvey W. Parker [harveyparker@compuserve.com]
Sent: Monday, February 02, 2009 4:09 PM
To: Grotefendt, Amy (Consultant)
Cc: Dye, Dave; Paananen, Ron; harveyparker@compuserve.com; Reilly, John; White, John; Van Ness, Kristy (Consultant)
Subject: RE: Tunnel from France to England

Amy,

1) The Channel Tunnel is not the longest rail tunnel. That record goes to the Seikan tunnel in Japan which is the current longest rail (or any other type) tunnel at 33.5 miles but the Gotthard Base Tunnel now under construction in Switzerland will become the longest at 35.5 miles.
2) It is my understanding that you are correct in saying that the underwater portion of the Channel Tunnel is longer than the underwater portion of Seikan Tunnel
3) The Outside Diameter (O.D.) of the TBMs was about 28 1/2 ft (which corresponds to our 54 ft diameter) while the I.D. was about 25 ft.
4) The Service Tunnel was about 18 1/2 ft O.D. and 15 1/2 ft I.D.
5) The tunnels drilled mostly through a soft rock, in fact a Chalk, not a soil. There were groundwater issues and the TBMs on the French side were watertight.
6) FYI, the longest road tunnel is the Laerdal Tunnel in Norway at
15.2 miles; I think it has 2-way traffic. The longest twin tube road tunnel is the Zhongnanshan Tunnel near Xian, China and it is 11.3 miles long
7) I think the 250 ft deep is about right as the depth below the sea bed was about 130 ft and the water is about 100 ft deep.

Hope this helps. Please feel free to call at 206-930-9875 or by email.

Best regards,
Harvey

At 10:53 AM 1/30/2009 -0800, Grotefendt, Amy (Consultant) wrote:
>
>Here is what I was able to find -- please review and send me any
>comments you have by COB Monday so we're able to get back with a
>response within a week. Thanks.
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>_____
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>England and France are connected under the British Channel by a 31-mile
>long bored tunnel that carries high-speed Eurostar passenger trains. At
>its lowest point the tunnel is 250 feet deep. It is the longest rail
>tunnel and has the longest undersea portion of any tunnel in the world.
>Eleven tunnel boring machines were used on both sides of the British
>Channel to cut through the soil under the channel to construct two
>tunnels and a service tunnel. The two rail tunnels are 25 feet in
>diameter; the service tunnel is located between them and is 16 feet in
>diameter.
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>_____
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>From: Dye, Dave
>Sent: Mon 1/26/2009 5:21 PM
>To: Paananen, Ron; Grotefendt, Amy (Consultant)
>Subject: FW: Tunnel from France to England
>
>

>Please follow up when we get a chance...thanks all!
>
>-dave
>
>_____
>
>From: Cecil, Amanda [mailto:Cecil.Amanda@leg.wa.gov]
>Sent: Monday, January 26, 2009 5:18 PM
>To: Dye, Dave
>Subject: Tunnel from France to England
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>
>Dave,
>I wanted to follow up with you on Senator Jacobson's question about the
>tunnel from France to England. Can you confirm if this was deep bore
>and any other interesting details?
>Thanks!
>:0) Amanda
>
>Amanda Cecil
>Fiscal Analyst
>Senate Transportation Committee
>(360) 786-7429
>Cecil.Amanda@leg.wa.gov
>
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