CHANNEL TUNNEL
THE CHUNNEL

Mike Molina
Mike Panko
Gabe Posluszny
Darren Reger
Introduction

- Crosses the channel at the straight of Dover, the narrowest point of the channel
- Goes from Folkestone, UK to Coquelles, France
- 31.4 mile train tunnel carrying people vehicles and freight via 2 single track electric rail sets
- 23.5 miles of the tunnel is under water making it the longest submerged tunnel in the world
- At the lowest depth the tunnel is 250 feet below sea level
Introduction

- Travel time underwater is about 20 minutes
- Much faster and easier than ferry to cross the channel
- Construction took from 1988 to 1994 and the tunnel was opened for passenger service on November 4, 1994. At the time it was the largest project ever conceived at about 21 billion US dollars.
- Owned by Eurotunnel and operated by Eurotunnel, Eurostar, DB Schenker Rail and SNCF
- In 2008 16.1 million tickets were sold for travel across the chunnel through Eurotunnel and Eurostar.
Built in the chalk marl layer

Chalk marl is chalk that has formed in shallower seas closer to land where clay washout from rivers and streams sunk to the bottom and deposited in the forming rock

Over time the land eroded back and the marl formation works away from land and strictly white chalk forms

Chalk Marl is almost always found below the white or grey chalk as it forms first
Due to the fine clay content in the marl it is virtually impervious to water.

Clay content makes it softer than the higher levels making it easier and faster to tunnel, as it is easier on the cutting machinery.
Difficulties

- Convincing People such a long tunnel was safe. To do this there was an escape tunnel construction in addition to the 2 rail traffic tunnels.
- Station on the English side has to be made on Castle Hill Landslide and in order to overcome this they buttressed the station with drainage adits, which are gravity powered pathways for water to escape.
- Needed a piston relief duct connecting the tunnels to regulate the pressure for moving trains.
- Trains got too hot so they needed to run cool water through pipes to keep the air at appropriate temperatures.
The spoil from the construction of the chunnel was placed in Samphire hoe. This area was then opened to the public as a park.
References