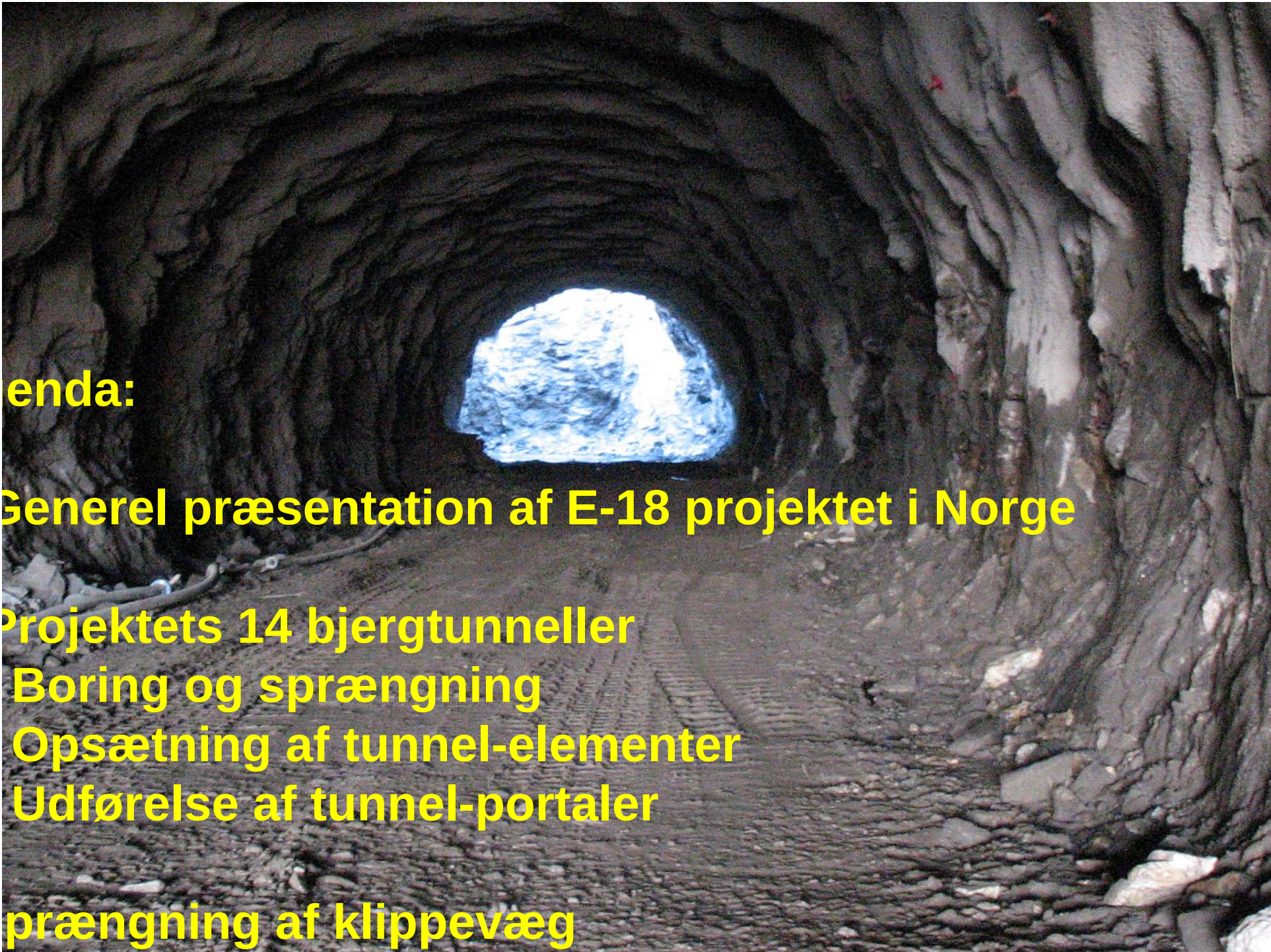


Tunnelforeningen

9. September 2008



Steen Pedersen, projektdirektør, E. Pihl & Søn



enda:

Generel præsentation af E-18 projektet i Norge

Projektets 14 bjergtunneller

Boring og sprængning

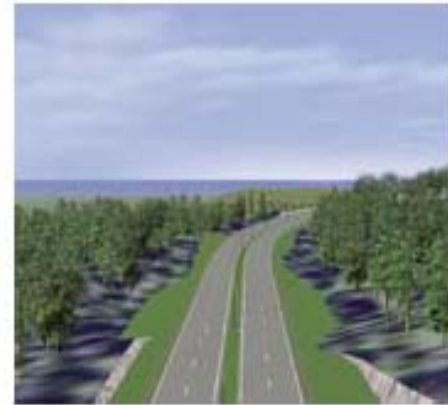
Opsætning af tunnel-elementer

Udførelse af tunnel-portaler

sprængning af klippevæg



CJV E18 GRIMSTAD - KRISTIANSAND



CJV-E18 Grimstad-Kristiansand



Norges største vejprojekt



PPP-Projekt fra Vegdirektoratet



Adger OPS Vegselskap AS

50% Bilfinger Berger BOT - 35% Sund AS - 15% E.Pihl & Søn AS



CJV E18 GRIMSTAD - KRISTIANSAND



Internt Joint Venture

56% Bilfinger Berger Civil – 24% E. Pihl & Søn – 20% Meister

Norges største vejprojekt



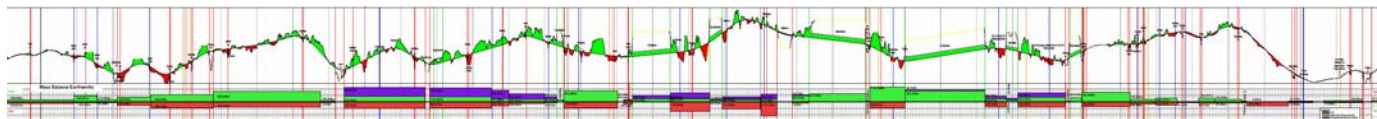
Design & Construct Contract

For DKK 3.000.000.000

På 38 måneder

~ DKK 3.500.000 per arbejdsdag

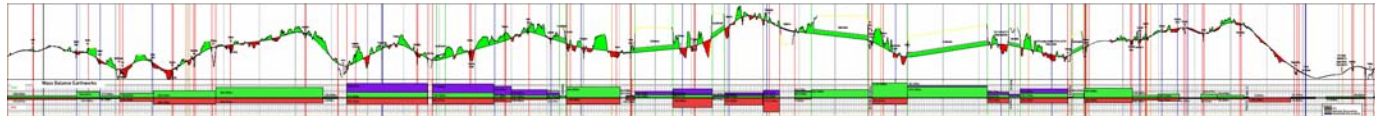
Projekt præsentation



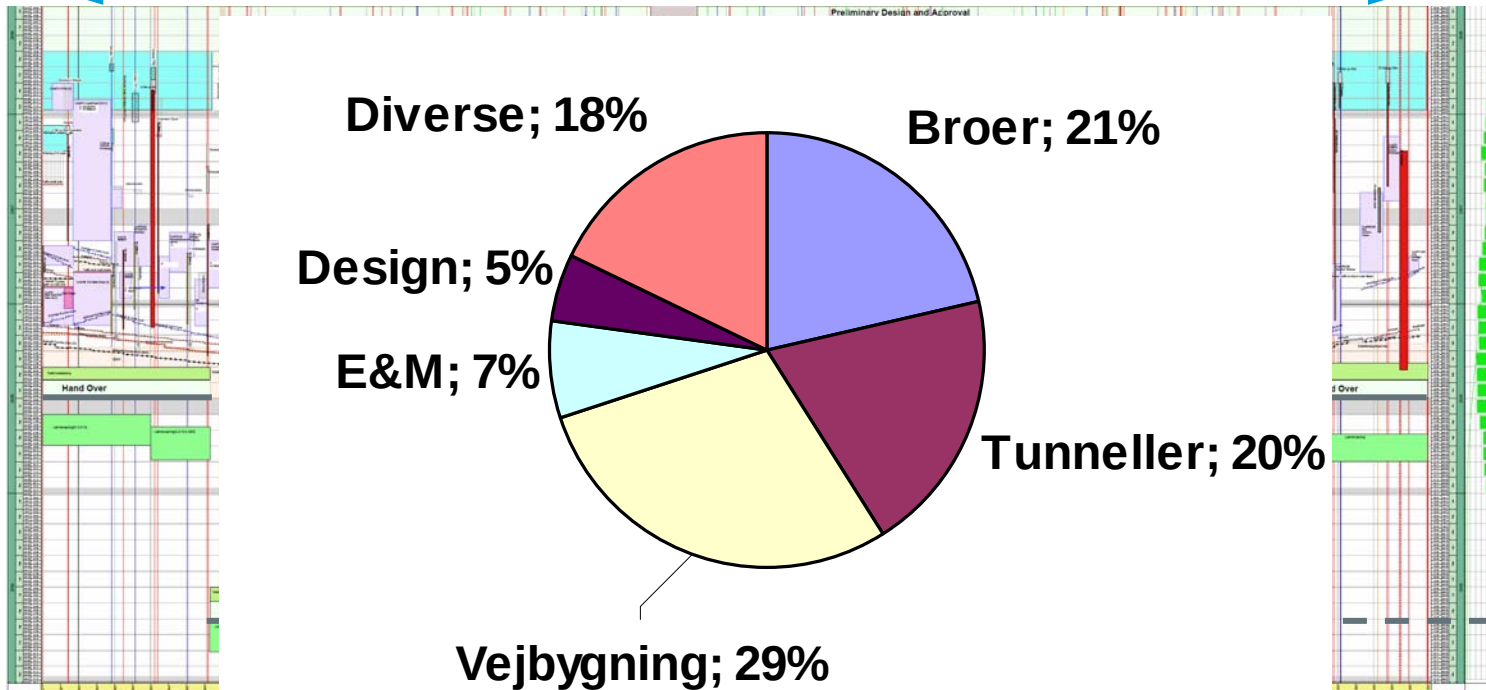
38,5 km

38 måneder

Projekt præsentation



38,5 km

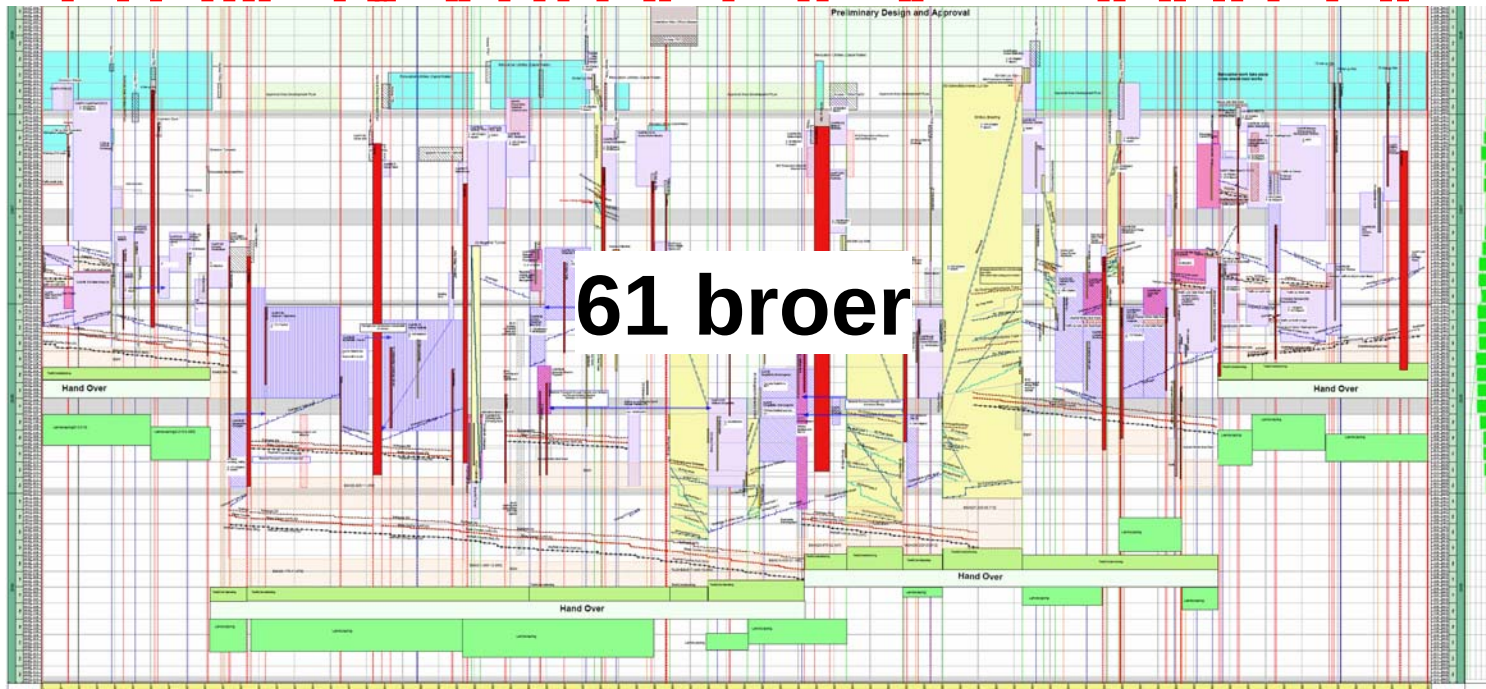
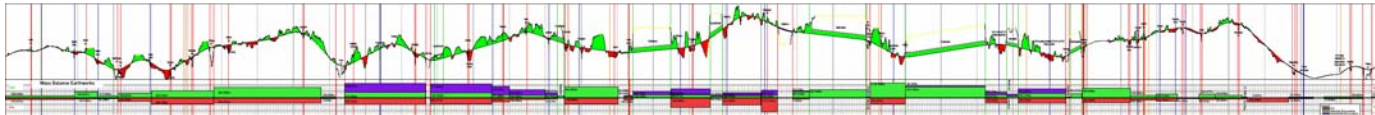


Projekt præsentation



- jordarbejde - her 30 km stenbrud

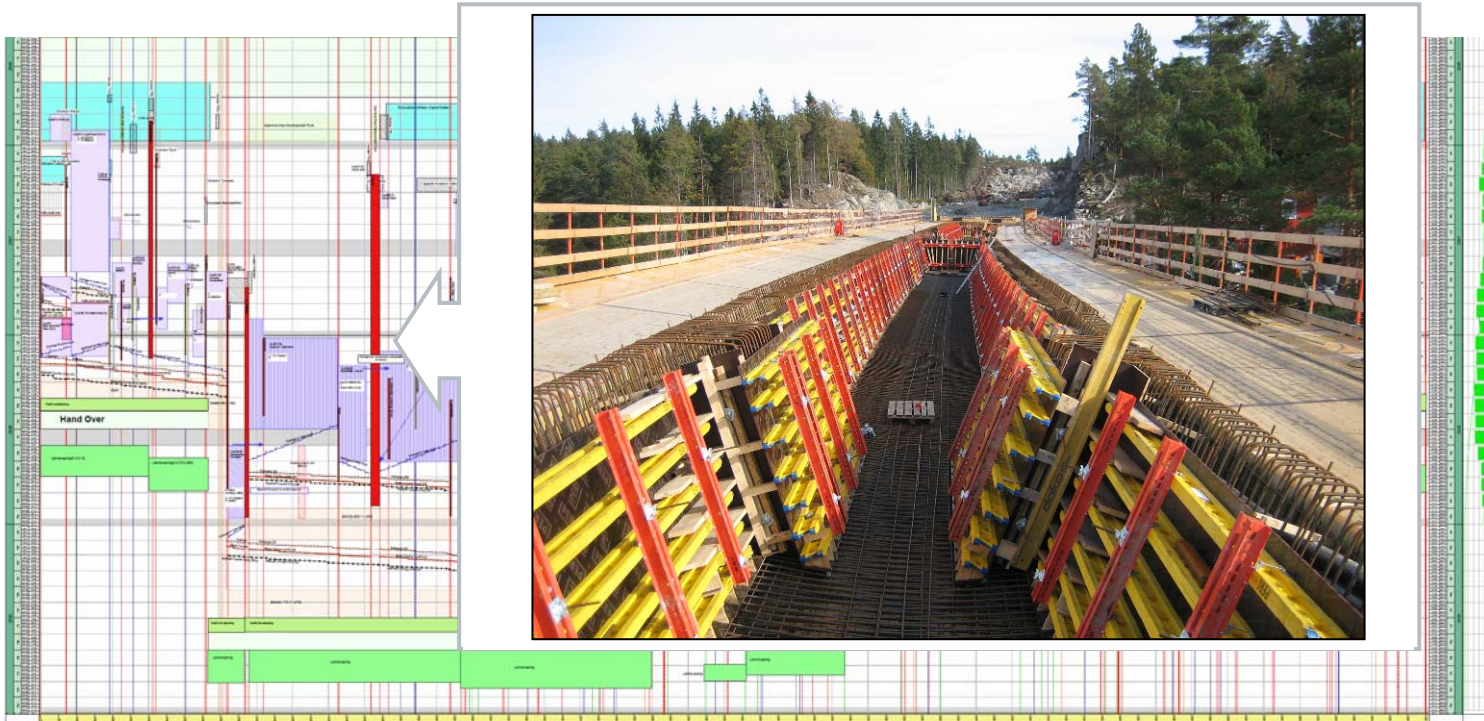
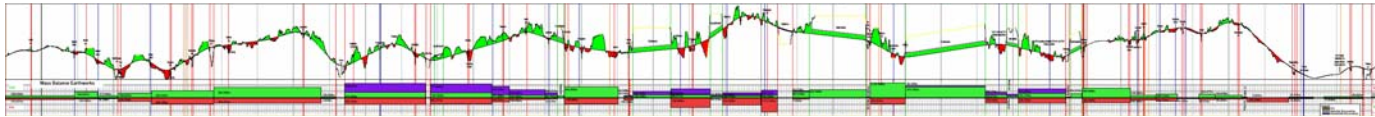
Broer



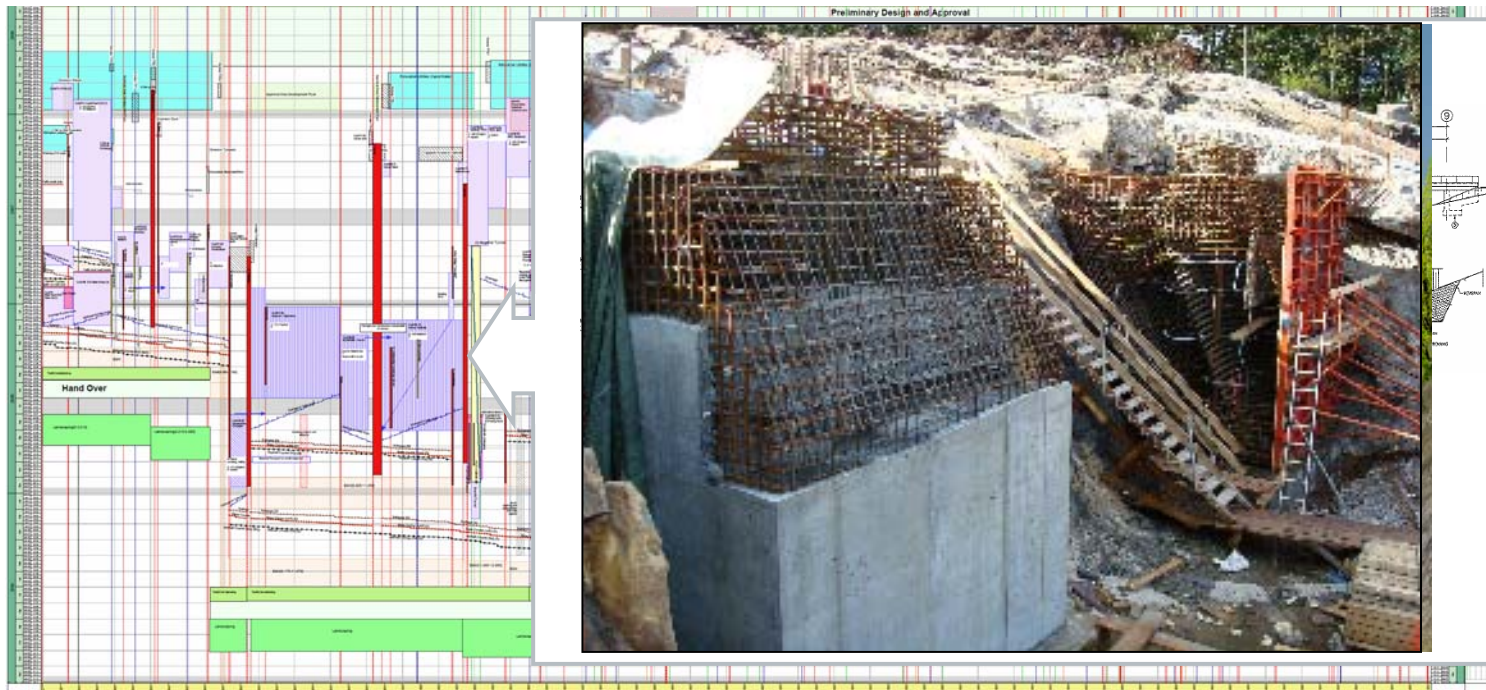
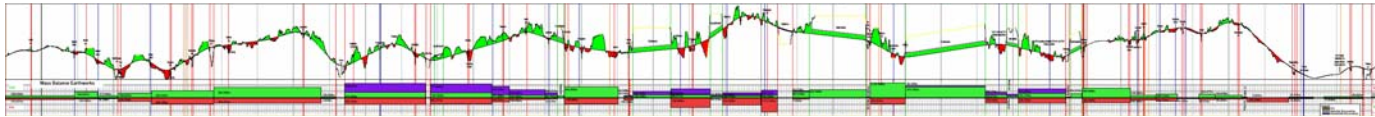
Broer



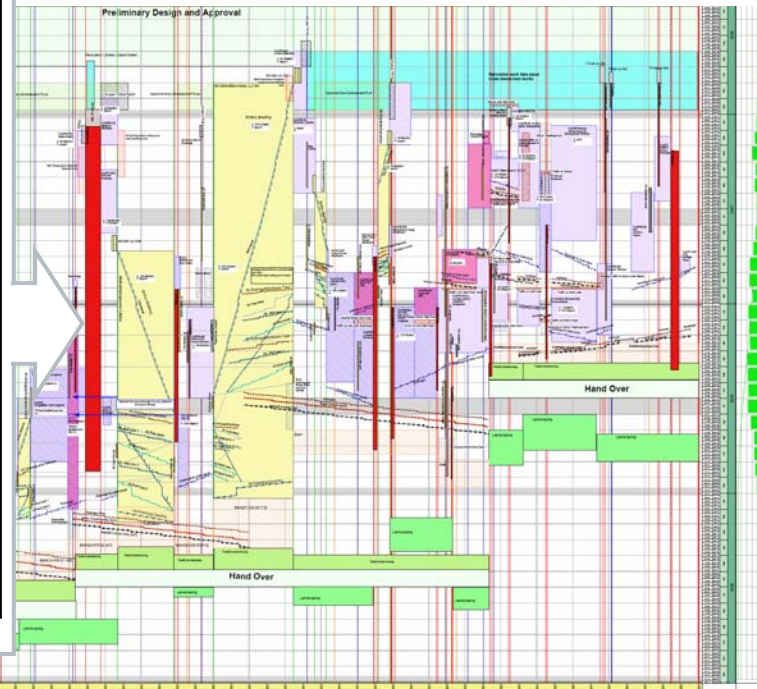
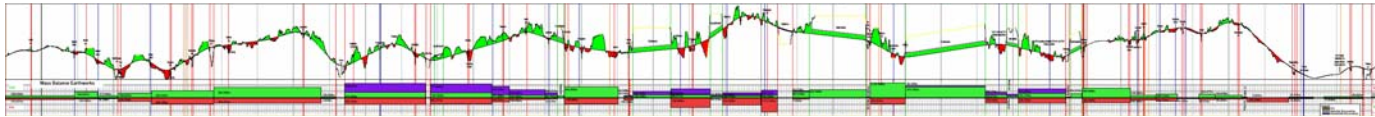
Broer



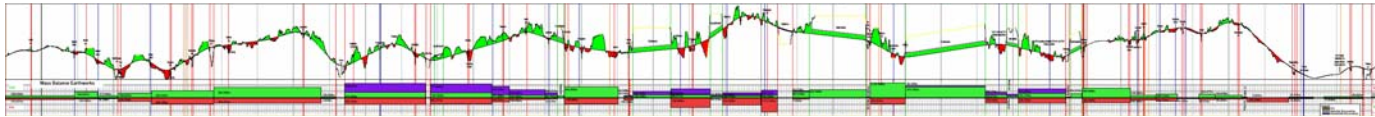
Broer



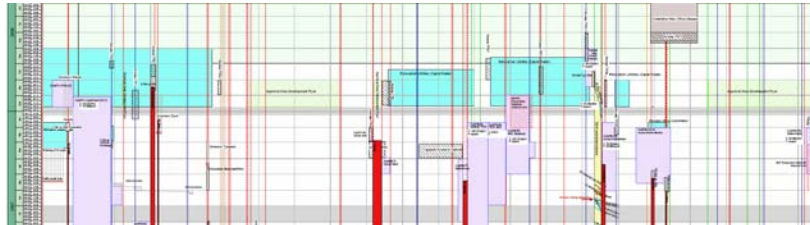
Broer



Broer



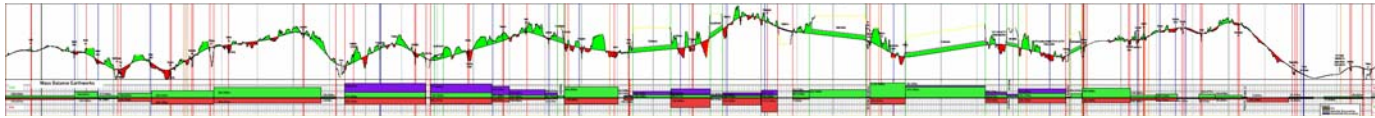
Andre bygværker



32 andre bygværker



Andre bygværker

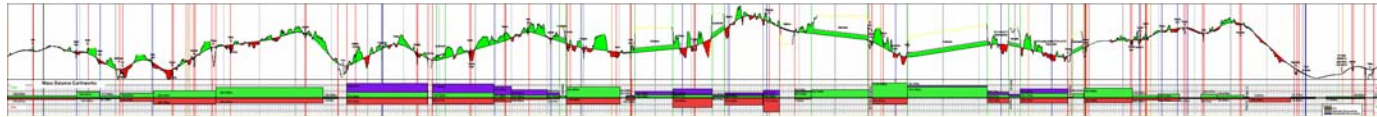


Engelhei “cut & cover” tunnel

2 rør på 250 m hver

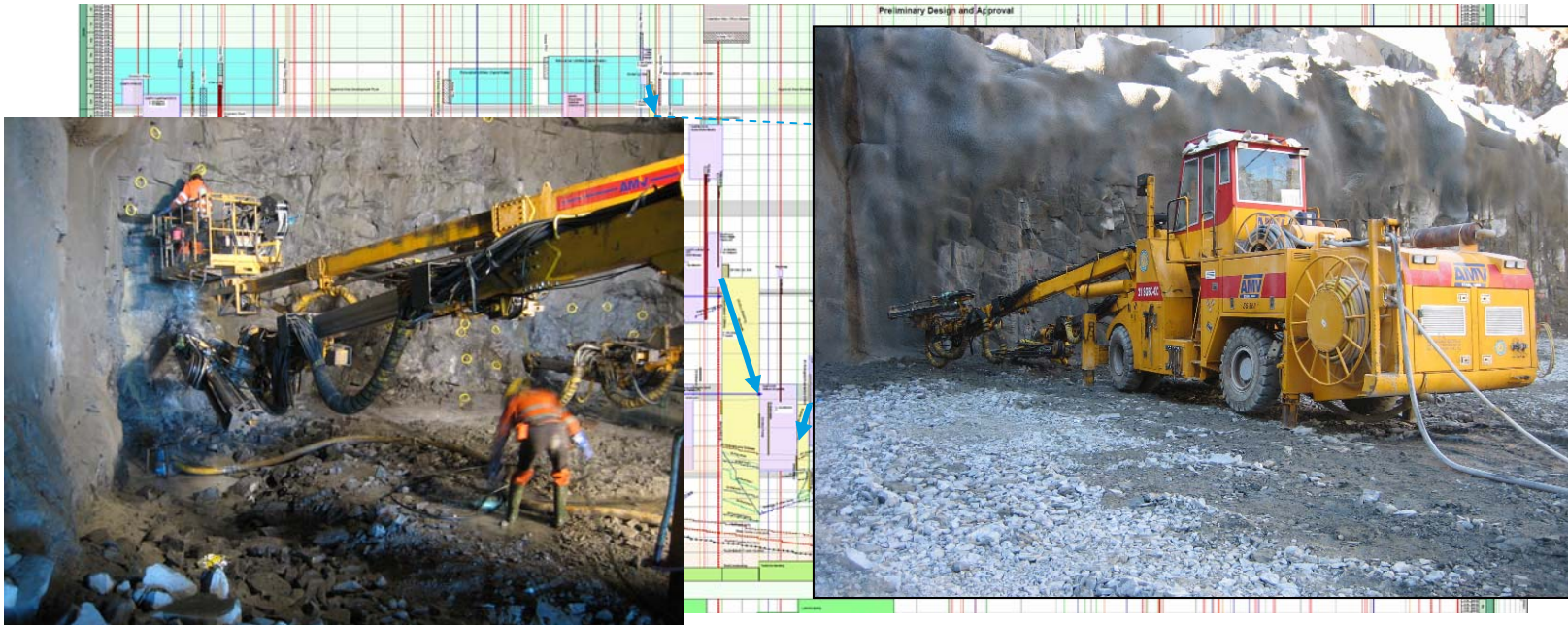
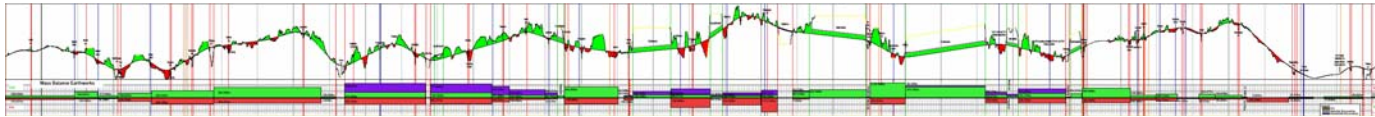


Tunnelbyggeri



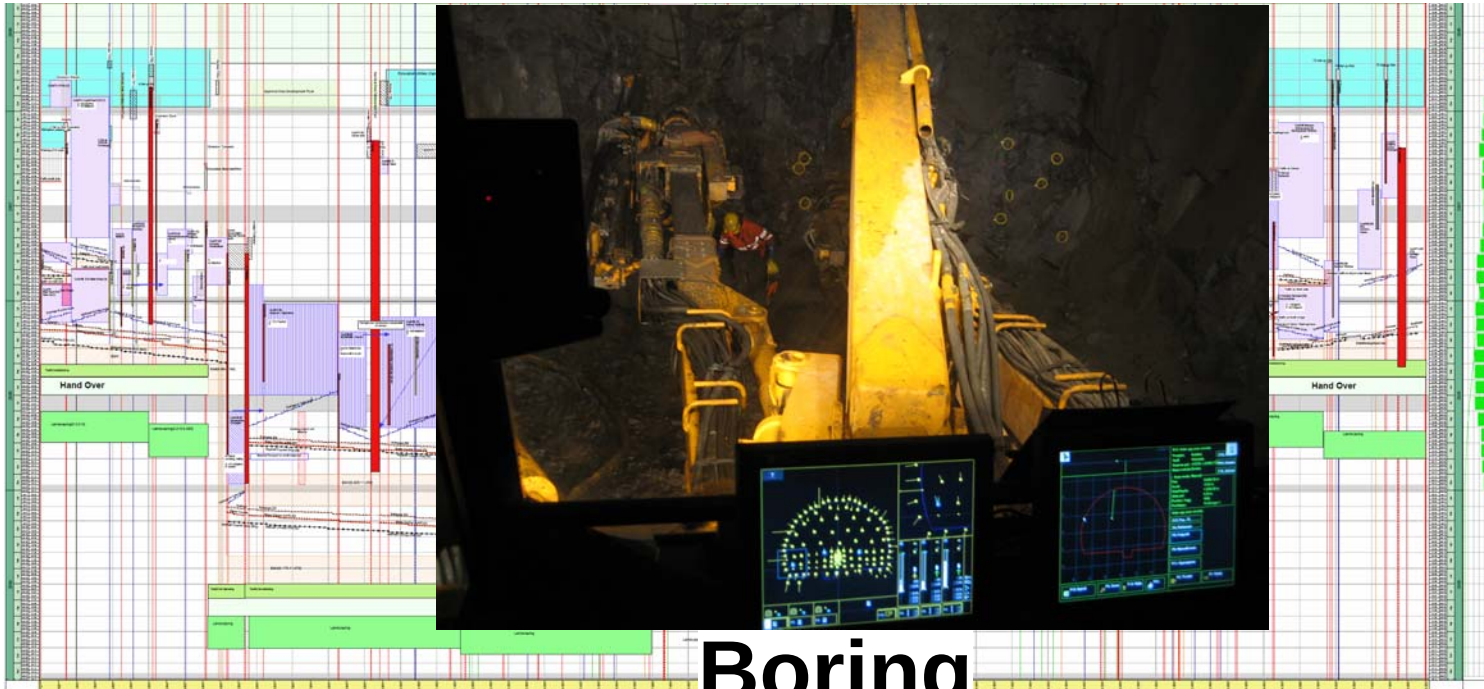
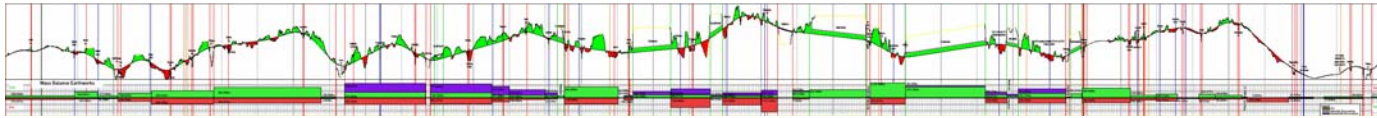
Længste tunnel: 2.200 m

Tunnelbyggeri



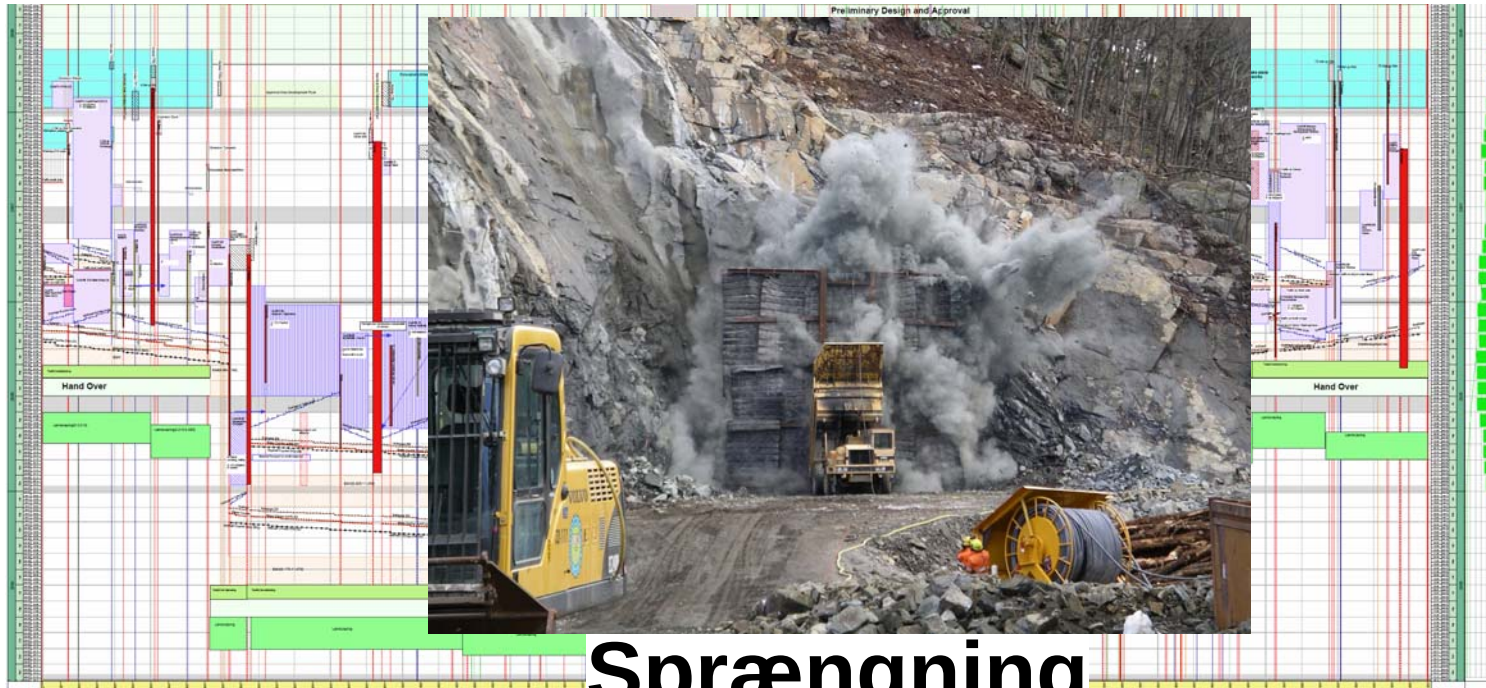
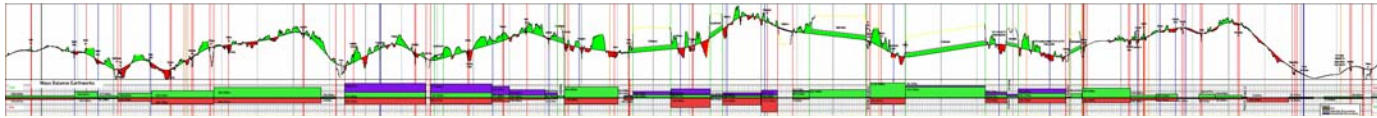
3 multi tunn... skal bore i alt 11.700 m

Tunnelbyggeri



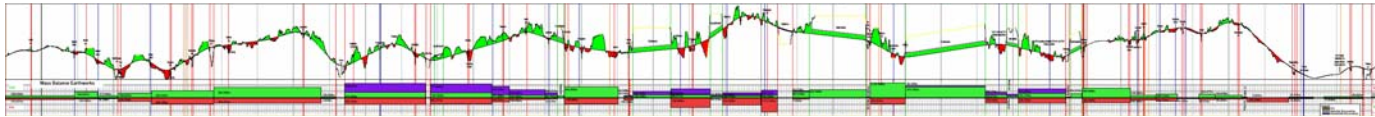
Boring

Tunnelbyggeri



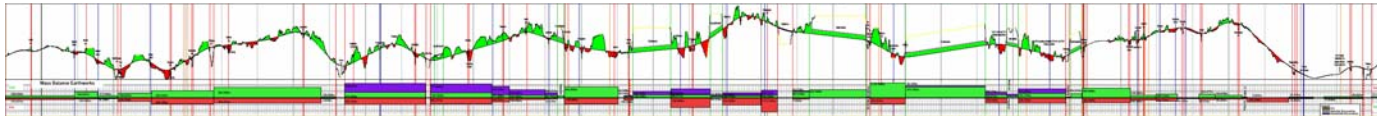
Sprængning

Tunnelbyggeri



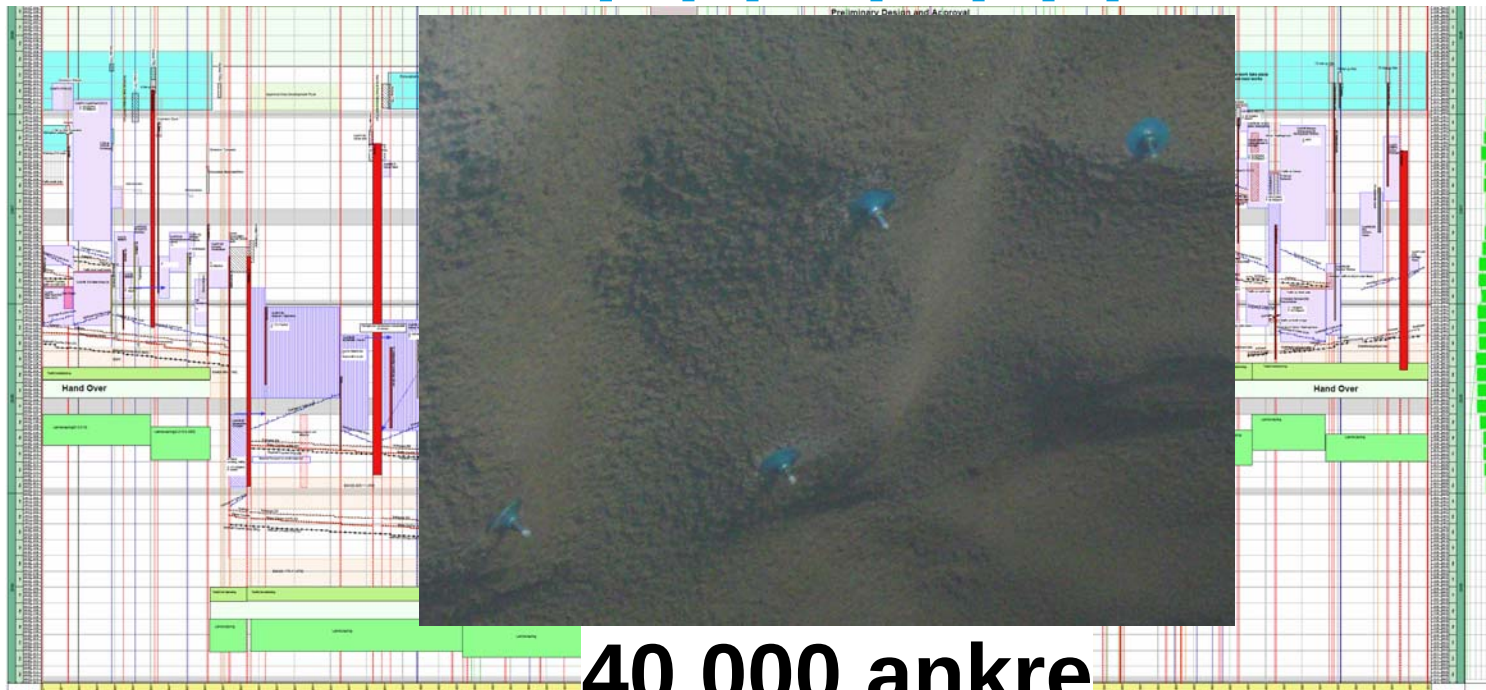
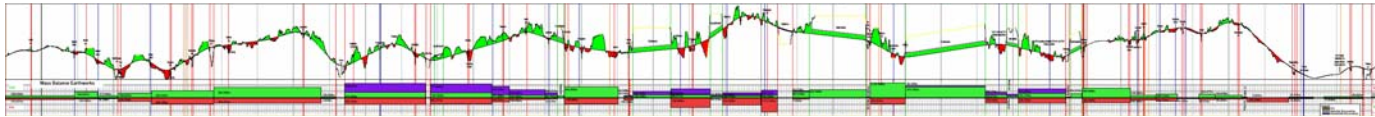
I alt 800.000m³ skal sprænges

Tunnelbyggeri



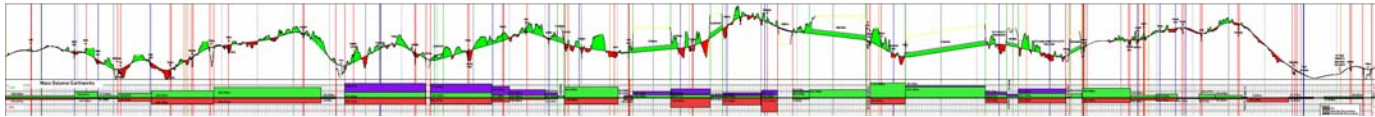
30.000 m³ sprøjtebeton

Tunnelbyggeri



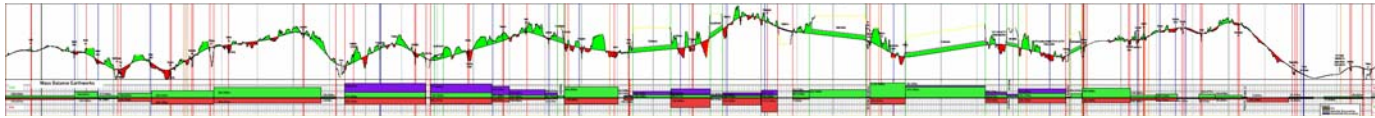
40.000 ankere

Tunnelbyggeri



220.000 m² beklædning

Tunnelbyggeri



Max. ugentlig tunnelproduktion 200 m

Vejbyggeri



38,5 km 4-sporet motorvej

Vejbyggeri



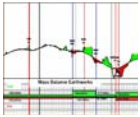
62 km mindre veje

Vejbyggeri



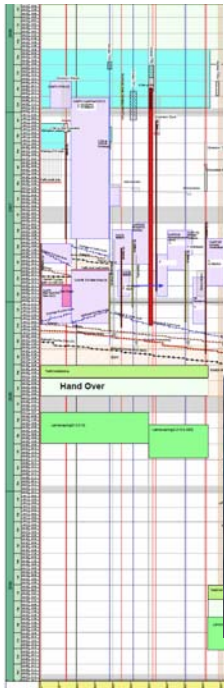
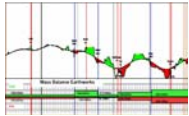
11 vejudfletninger

Vejbyggeri



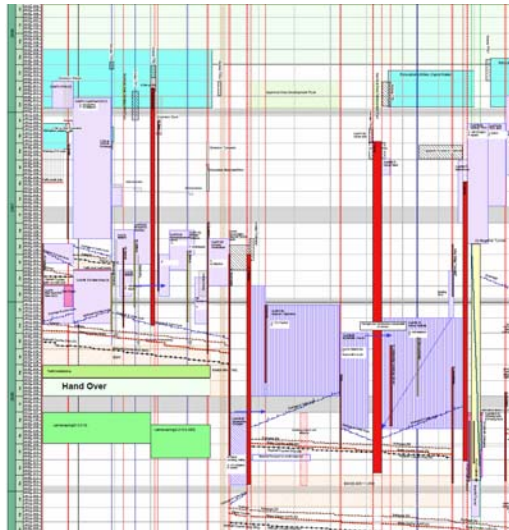
Rydning af skov

Vejbyggeri



Boring

Vejbyggeri



Sprængning

... 3.500 t sprængstof over 2 år

Vejbyggeri



Flytning



... af 5 mio. m³ klippe

Udstyr



Udstyr:

- 28 tårnkraner**
- 3 multi tunnelboremaskiner**
- 25 borerigge**
- 100 jordflytningsmaskiner**
- 2 asfaltanlæg**

Arbejdsstyrke



Bemandning fra 17 nationer

200 egne ansatte

... heraf 22 fra Pihl

400 ansatte hos underentreprenører

600 i samlet arbejdsstyrke





GLÆDEN VED AT SKABE