

Jobsite Report

World's first pedestrian tunnel built with an injection umbrella in the UAE / Abu Dhabi.

Project:

Construction of 20 pedestrian tunnels in cooperation with company Bauer International

Equipment:

Chassis of a "Klemm drilling rig", the HDD carriage is a 6t drilling rig from TractoTechnik.

Measuring technology:

Standard walk over measurement technology mark III, Radio probe with inclinometer, 0.1%.

Customer:

Al Muharry (16 tunnels), Al Mureccy (1 tunnel), ADMAC (3 tunnels)

Quantity:

Injection umbrella, 508 bore holes, length from 30 m to 81 m, total drilling of 21.906 m,

Soil conditions:

Lose sand, layer of sandstone, clay, shell

Period:

September 2001 up to May 2004

Pictures:

for the tunnels, special self-built drilling rig



Joerg Seeliger, with walk over measuring system Mark III

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all 508 bores with a measurement tolerance of less than 3 cm at a depth of up to 8 m

Tunnel	Abu Dhabi	length m	drill holes	drill m	date
PC4	Hamdan St.	35	19	665	04.09.01-26.09.01
PC7	Hamdan St.	36	23	828	09.10.01-25.10.01
PC25	Al Maktoum St.	55	28	1540	10.11.01-15.12.01
PC6		35	19	665	07.01.02-19.01.02
PC11		37	23	851	04.02.02-18.02.02
PC9		29	21	609	02.04.02-11.04.02
PC5		34	23	782	21.04.02-04.05.02
PC19		36	25	900	25.05.02-15.06.02
PC14		29	30	870	25.06.02-09.07.02
PC13		34	30	1020	29.09.02-13.10.02
PC3		40	20	800	08.01.03-19.01.03
PC10		39	37	1443	27.01.03-12.02.03
PC12		55	25	1375	17.02.03-03.03.03
PC20		32	34	1088	26.03.03-09.04.03
PC8		40	25	1000	03.05.03-15.05.03
PC13a		35	36	1260	08.03.03-22.03.03
Al Mureccy					
PU3	Mussafah Road	71	30	2130	01.01.04-20.02.04
PU2	Mussafah Road	68	30	2040	21.02.04-15.04.04
PU1	Mussafah Road	68	30	2040	16.04.04-31.05.04

508 bore holes, total drilling of 21.906 m,



Pump container for grouting the injection pipes



after grouting, excavation with a JCB



due to the limited space between high-rise buildings and the street, there was no alternative to our tunnel construction



a completed tunnel

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Nation Tower, pedestrian tunnel 81 m long, built with an injection umbrella at the Corniche Beach in Abu Dhabi.

Project:

Construction of a pedestrian tunnel 81 m long and close to the beach.

Due to the significant increase in traffic, there was no permit for the "walk over" measurement technology, since the road has to be crossed to take measurements. We opted for a "TruTraker/Para Trak" magnetic field loop measurement technique, where we use a computer program to calculate the position of the drill head.

Equipment:

Chassis of a "Klemm drilling rig", the HDD carriage is a 6t drilling rig from TractoTechnik.

Measuring technology:

Non mag steering assembly with a TruTraker magnetic field loop measurement technique PSENSE, where we use a computer program to calculate the position of the drill head.

Customer:

Bauer International,

Quantity:

Injection umbrella, 54 bore holes, length 81 m, total drilling of 4374 m,

Soil conditions:

Lose sand, layer of sandstone, clay, shell

Period:

Year 2010

Pictures:



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Souq Waqif & Ahmad, 1 + 2 pedestrian tunnel to Souq Waqif and Ahmad, built with an injection umbrella at the Corniche in Doha.

Project:

Construction of 3 pedestrian tunnels in cooperation with company Bauer International

Equipment:

A specially developed frame for quick execution of different heights, the HDD carriage is a 20t drilling rig FBS, developed bei ABS.

Measuring technology:

an optical measuring system that does not allow a tolerance greater than 20 mm.

Customer:

URBACON General Contracting

Quantity:

Injection umbrella, 296 bore holes, length from 34 m to 56 m, total drilling of 14.123 m,

Soil conditions:

backfill boulders, layer of sandstone, clay, shell

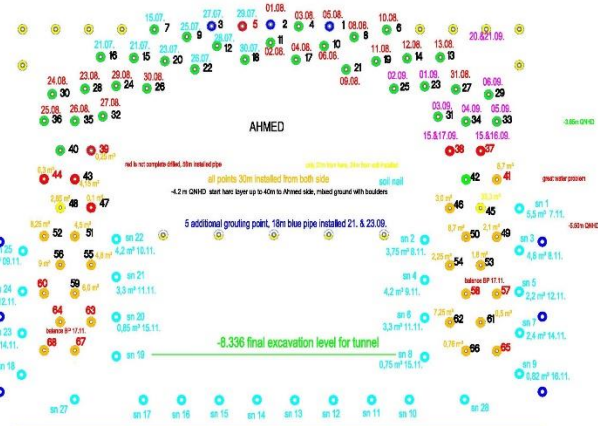
Period:

November 2012 to September 2015

Pictures:



back filled ground on the corniche



drilling to retain groundwater and stabilize the tunnel

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our self-built drilling rig for quick move between boreholes



As is so often the case when building, you see that you have to optimize.



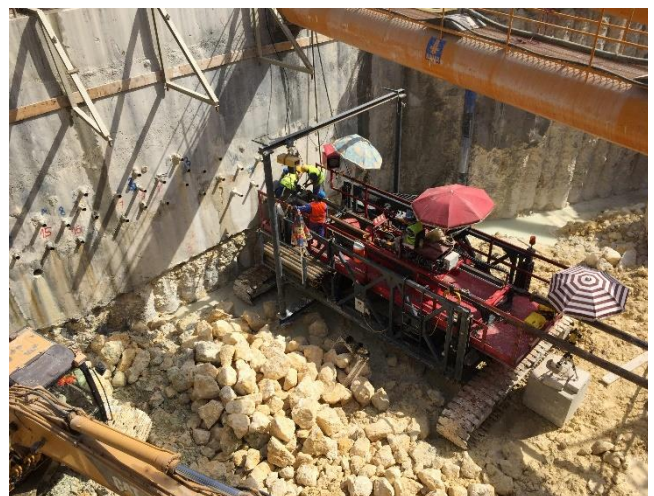
The drilling is monitored optically and by a monitor



optical total station is watching inside the drill pipe the pilot head



All boreholes require 100% drilling out of the pre-cored holes in the bored pile wall



difficult ground condition

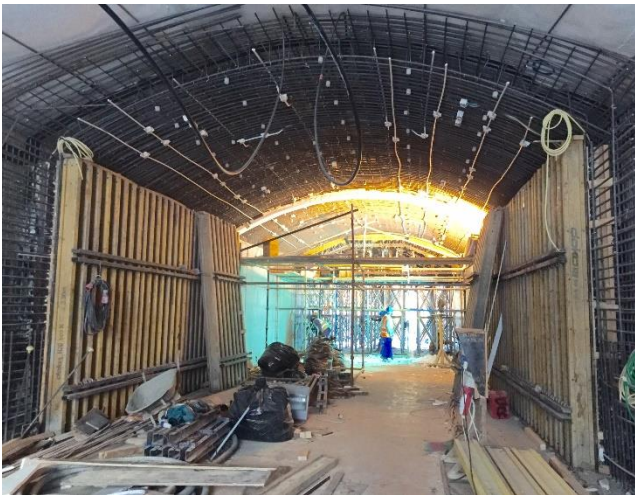
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Excavation pit with drilling work to Souq Ahmad



Excavation work of the pedestrian tunnel



Interior of the pedestrian tunnel



waterproof interior work



finished escalator to the pedestrian underpass



very nice interior of the pedestrian tunnel

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Qatar Rail, 3 pedestrian tunnel 64 m -74 m, built with an steel pipe arch for Doha Metro.

Project:

Construction of 3 pedestrian tunnels in cooperation with company Bauer International

Equipment:

Bohrtec drilling rig with a Front Steer 508 mm and DTH hammer, ABS 1200 with a Front Steer 608 mm.

Measuring technology:

an optical measuring system that does not allow a tolerance greater than 20 mm.

Customer:

Qatar Rail, QDVC

Quantity:

Steel pipe arch 508 mm, 69 bore holes, length from 64 m to 74 m, total drilling of 4.922 m,

Soil conditions:

layer of sandstone, clay stone, shell

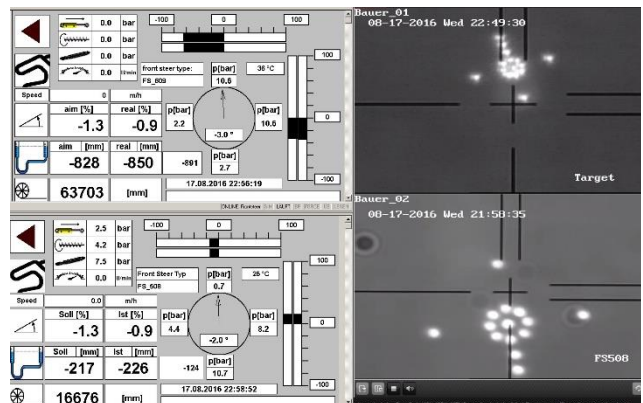
Period:

April 2016 to February 2017

Pictures:

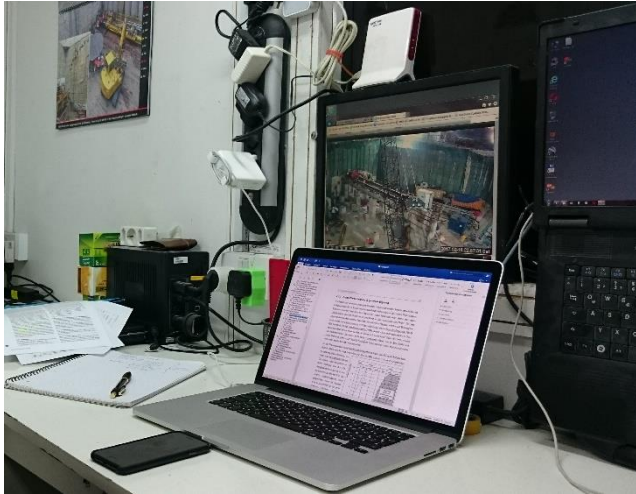


Bohrtec operator, fully controlled monitoring



Display of controlled monitoring

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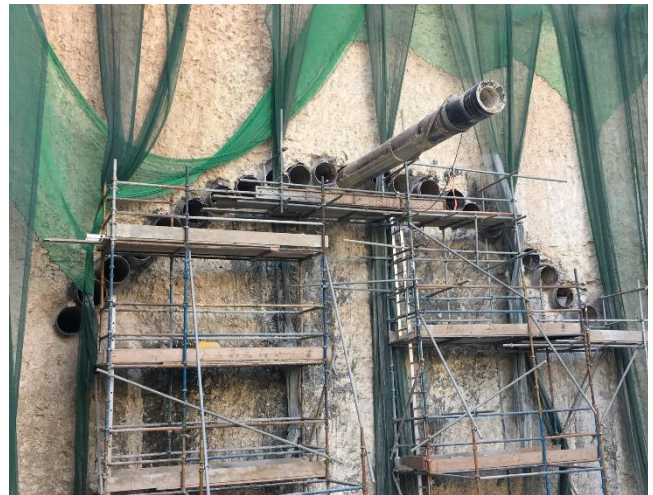
online live view and controlled monitoring



Folding wing head in in front of the Front Steer



drilling with two rigs, second machine in stand by



last hole in the pipe arch



excavation of the tunnel



only 20 mm tolerance in the pipe arch, anulus was grouted