

# Bever 3D Win Profiler – New profiler system based on Ms Windows

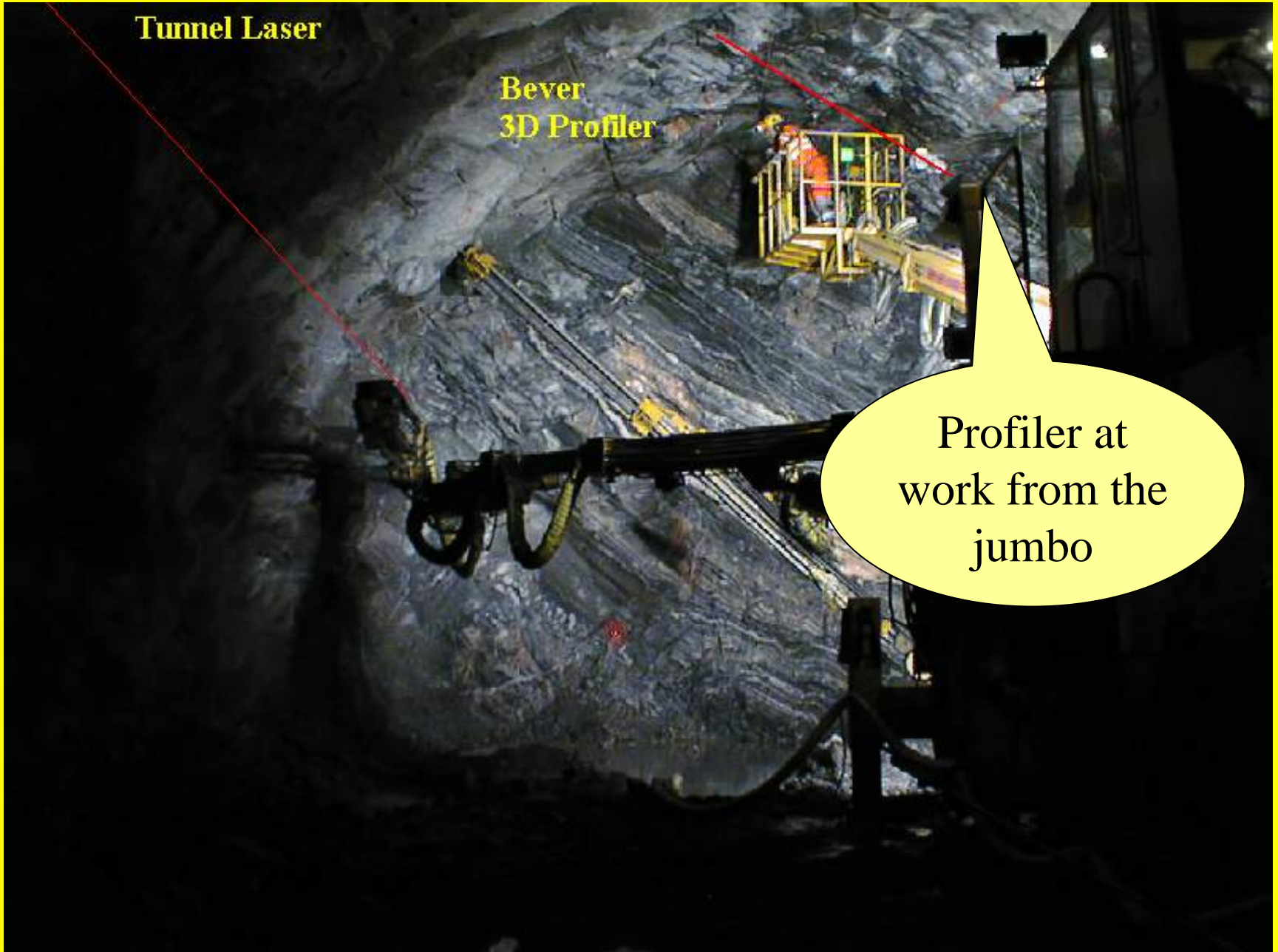


Profiler can be operated from a Ms Windows computer

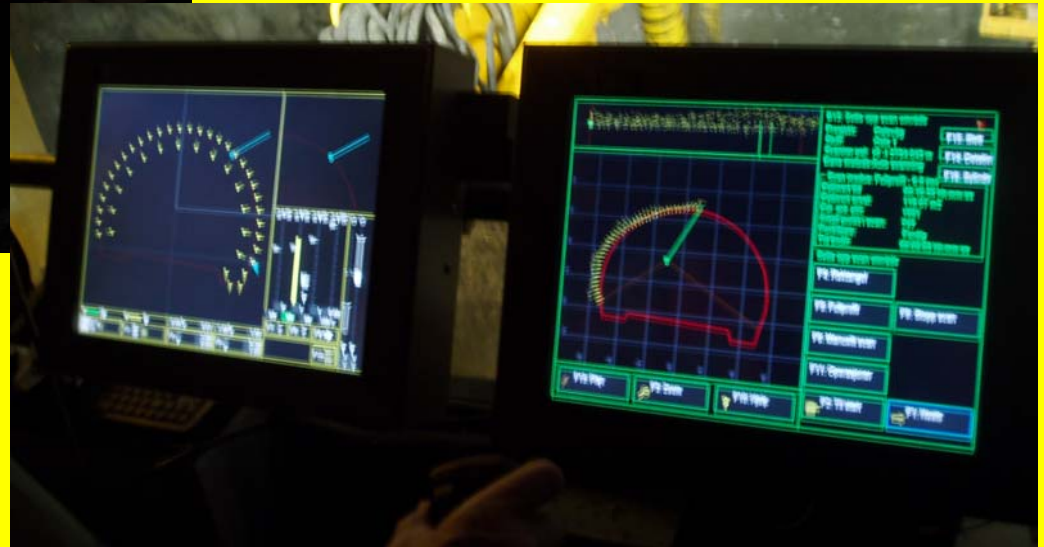
Tunnel Laser

Bever  
3D Profiler

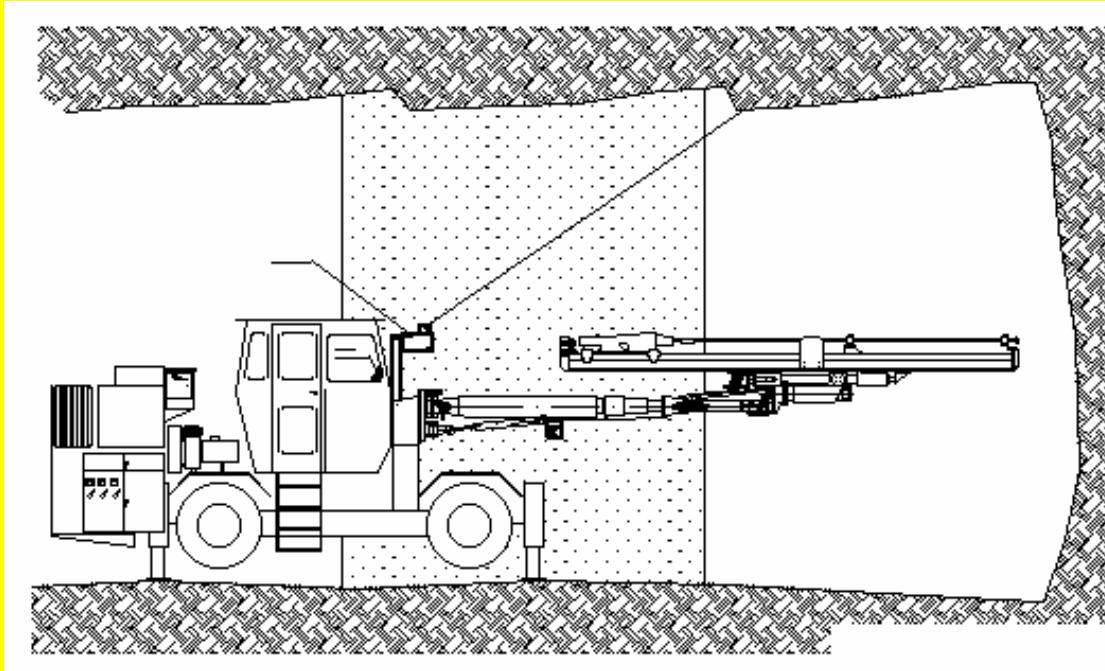
Profiler at  
work from the  
jumbo



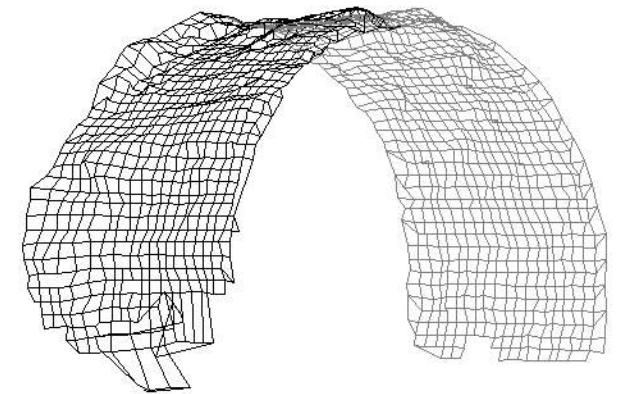
# Scanner in operation on AMV jumbo



# Scanning of last blasted round



Bever 3D Profiler scanning of a blast round with 25 cm grid size



# Bever Profiler on Atlas Jumbo

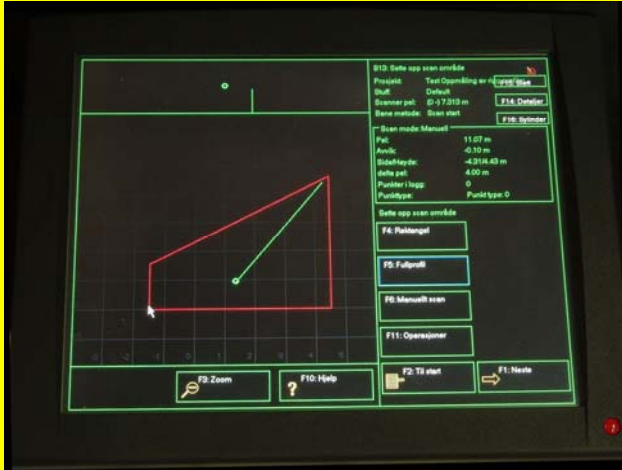


USB pin for transfer of data



Option  
Modem or  
WLAN/GPRS

# Bever Win Profiler Components



Computer  
Win XP



Joystick  
controller



Scanner with Win  
CE realtime  
controller inside



24V dc

Can Bus

# **Bever 3D Profiler Win 2000**

## **New functions**

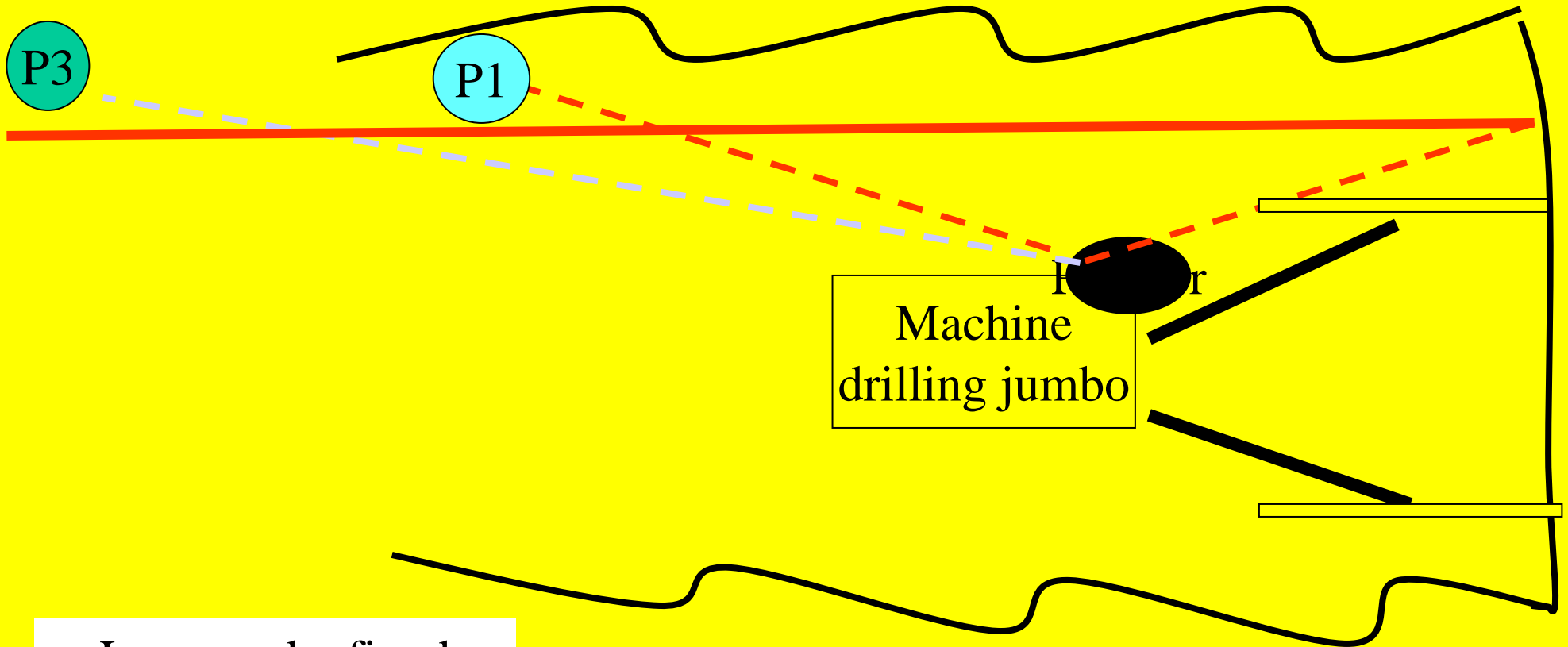
- **Accuracy and speed improved (double speed)**
- **Project data with all geometry information download**
- **New method for navigation (fixed point/laser options)**
- **Navigate the drill jumbo using profiler**
- **Overbreak/Underbreak display according real geometry in curves, ramps and niches**
- **Alternative scanning strategies and grid-size**
- **Code identification of scanning. Identify scanning purpose, before/after shotcreting etc**
- **Ms Windows operativsystem**

# **Bever 3D Profiler Win 2000**

## **Improved Recording Applications**

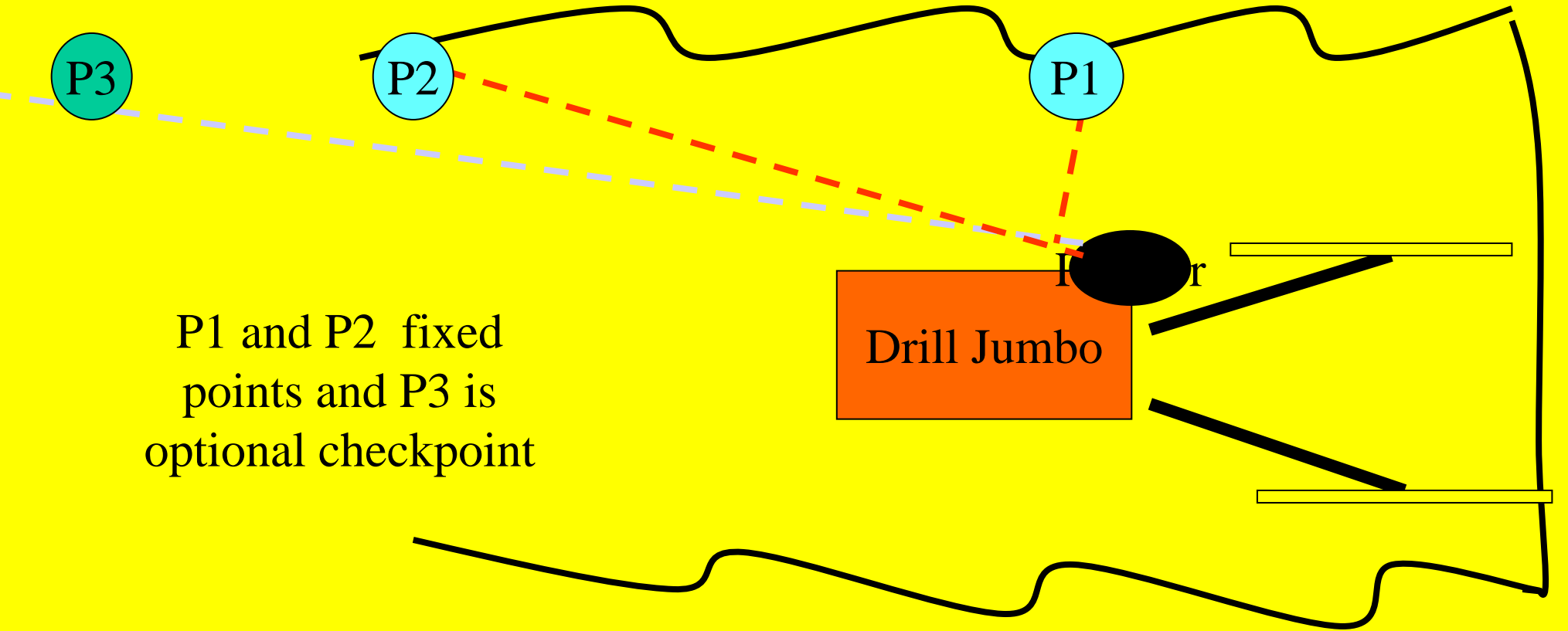
- **Check geometry of contour from the jumbo in curves, ramps, niches etc**
- **Manuel record of anchor positions**
- **Scanning before and after shotcrete. Display thicknes of shotcrete. Display surface variations**
- **Manual record of geological faults etc**
- **Manual setting out**

# Navigation with Bever Profiler 2000

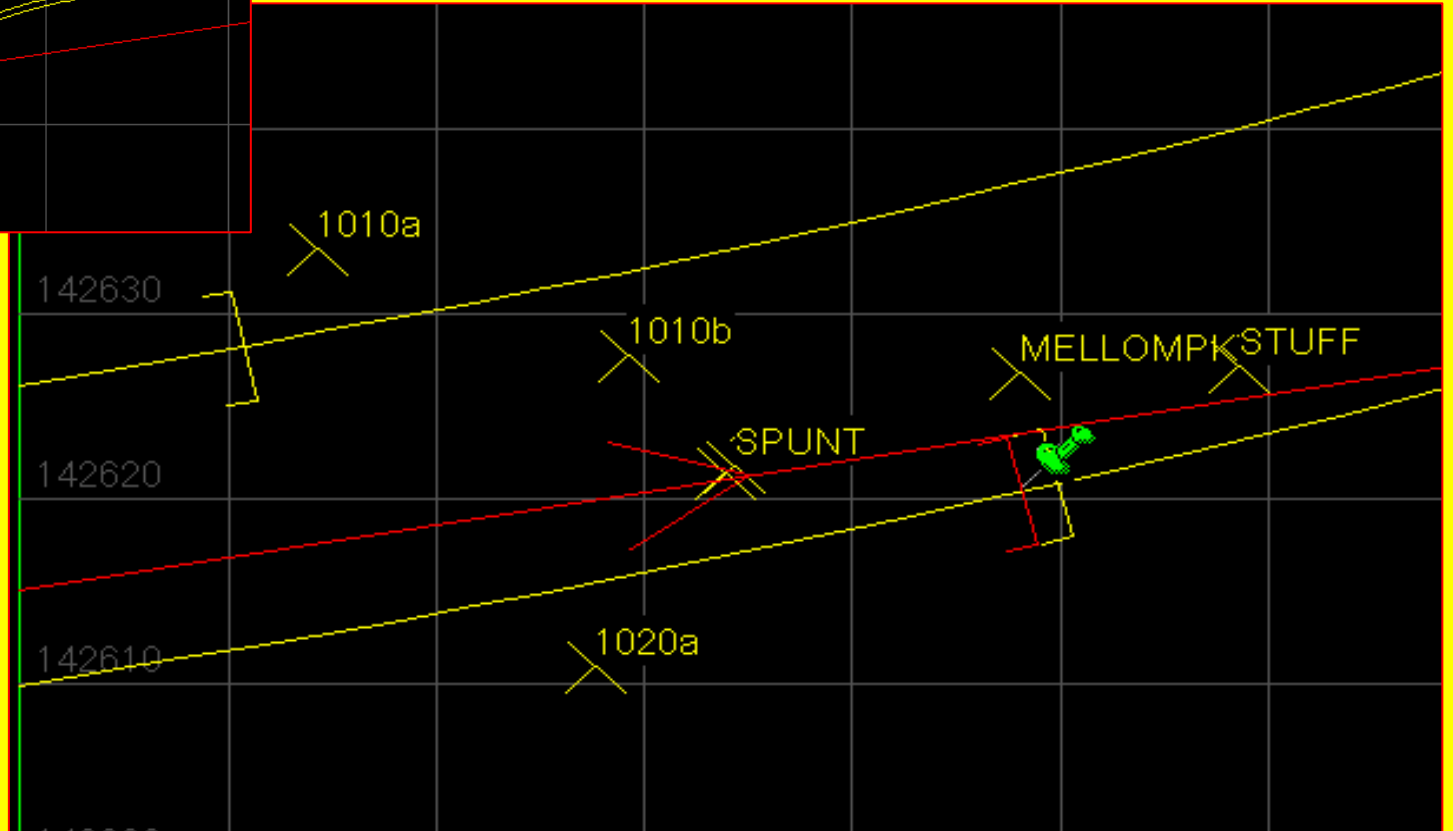
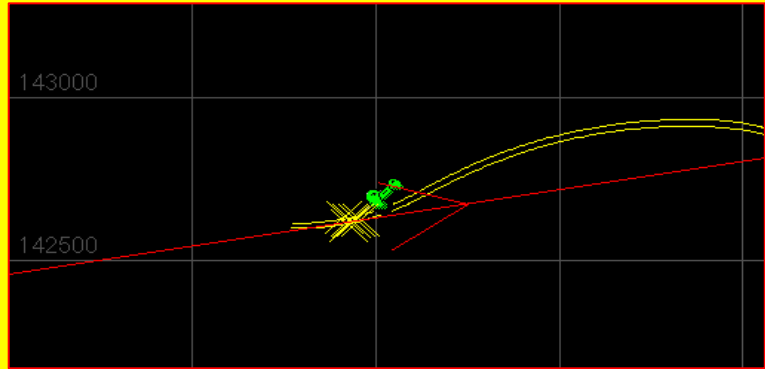


Laser and a fixed  
point and checkpoint

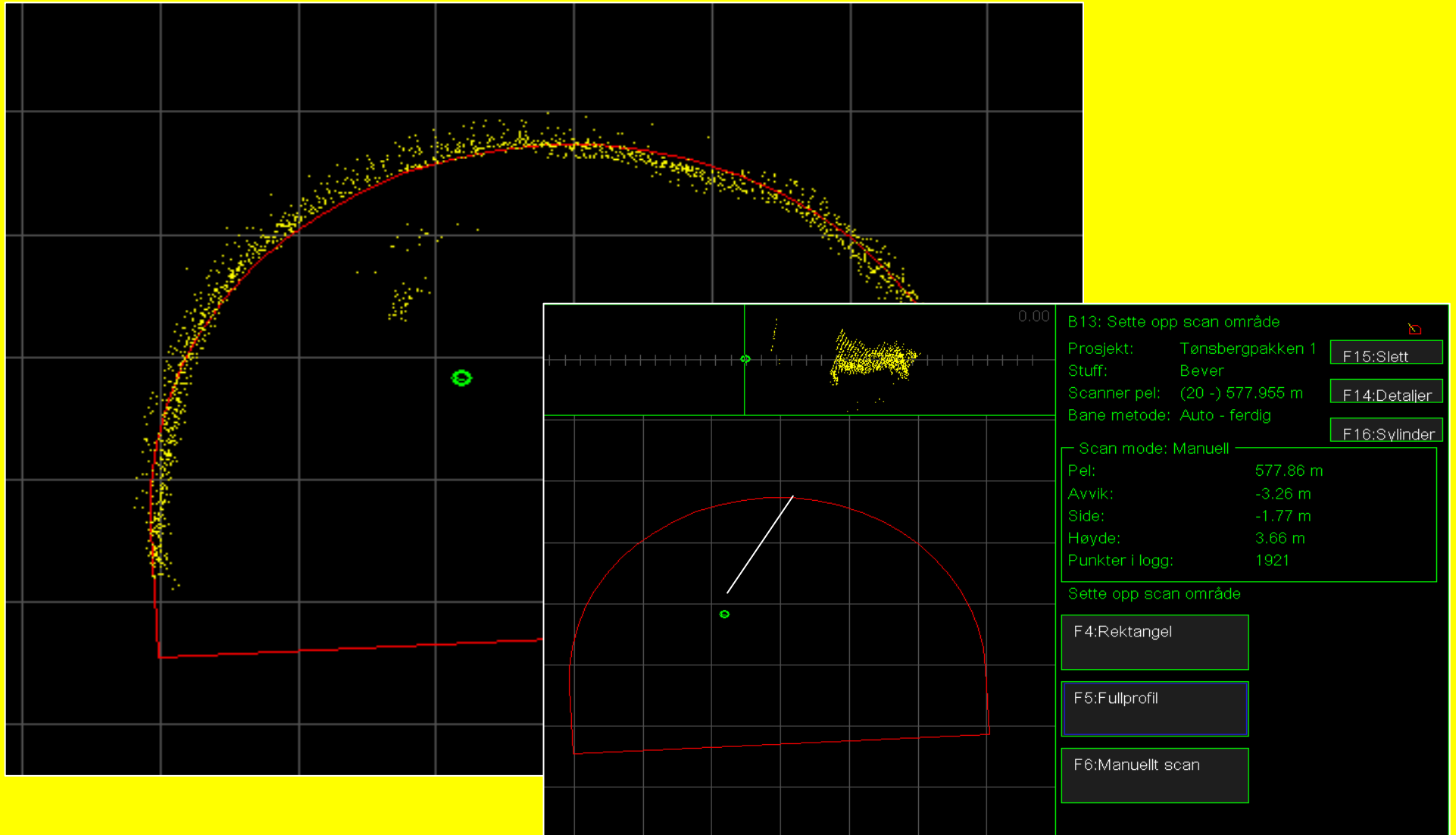
# Navigate using two fixed points



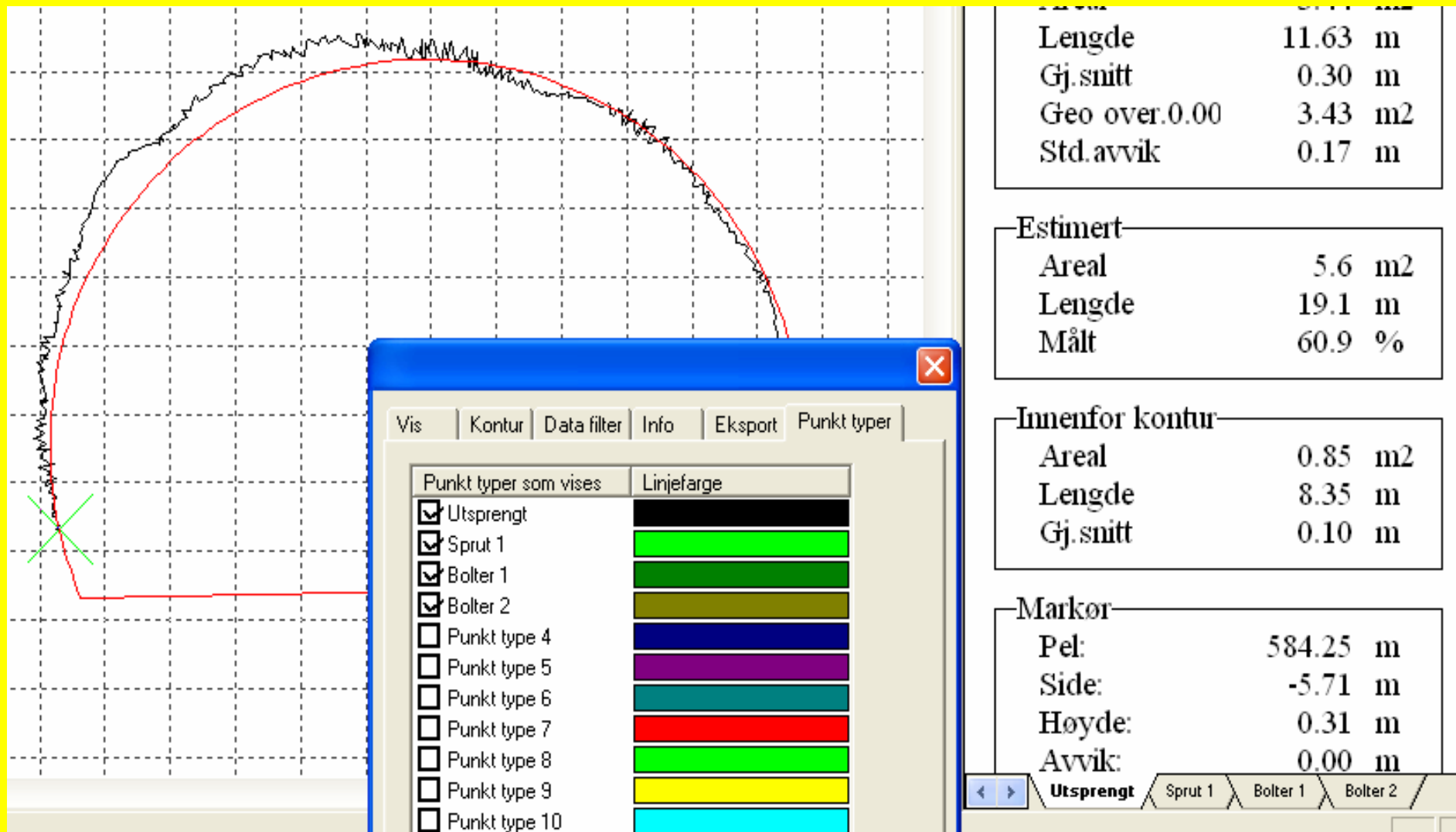
# Navigation using fixed point in the tunnel for profiler and drill jumbo system



# Profiler display on jumbo



# Codes for scanning application to select before and after shotcrete, anchor drilling etc



# **Volume calculations**

## **export all data to Excel templates**

- **Theoretical contour volume**
- **Total blasted volume**
- **Total overbreak**
- **Surface area**

# Volume data export to Ms Excel standard templates or custom design

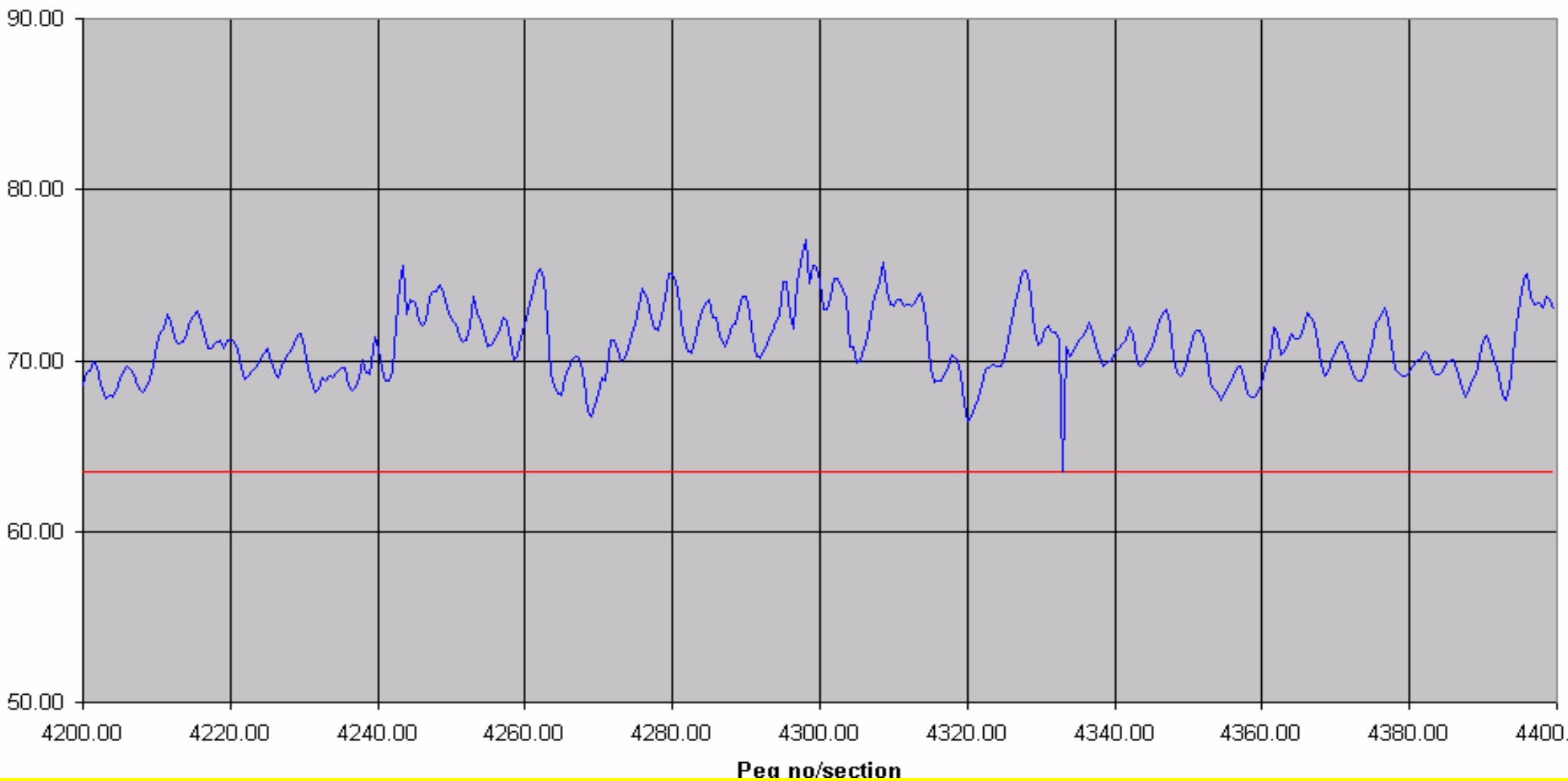
1	Pel	ContourArea	ContourLength	ContourFloor	ContourAdd	OutArea	OutLength
2	3787	91.0763	21.091	16.128	0	12.558	21.034
3	3787.5	91.065	21.091	16.128	0	11.96	20.9487
4	3788	91.058	21.09	16.128	0	11.3436	21.09
5	3788.5	91.0486	21.089	16.13	0	10.2273	21.083
6	3789	91.0425	21.088	16.131	0	9.6163	21.088
7	3789.5	91.028	21.084	16.13	0	8.9287	20.9021
8	3790	91.0223	21.084	16.13	0	8.4292	20.978
9	3790.5	91.0205	21.083	16.13	0	8.2599	21.0364
10	3791	91.0052	21.082	16.13	0	8.0675	19.8328
11	3791.5	90.999	21.081	16.131	0	7.2827	18.0595
12	3792	90.9883	21.079	16.131	0	6.6107	17.635
13	3792.5	90.9781	21.078	16.131	0	5.4105	17.6865
14	3793	90.9732	21.077	16.131	0	4.8778	17.8587
15	3793.5	90.9704	21.075	16.132	0	5.358	19.0536
16	3794	90.963	21.075	16.132	0	5.6489	20.7818
17	3794.5	90.9517	21.073	16.131	0	3.4228	5.38
18	3795	90.9413	21.072	16.131	0	7.279	17.547
19	3795.5	90.9351	21.071	16.132	0	7.6359	18.9071
20	3796	90.9204	21.069	16.132	0	7.3437	19.5138
21	3796.5	90.9146	21.067	16.132	0	6.7302	19.6461
22							

# Volum calculation in Excel template

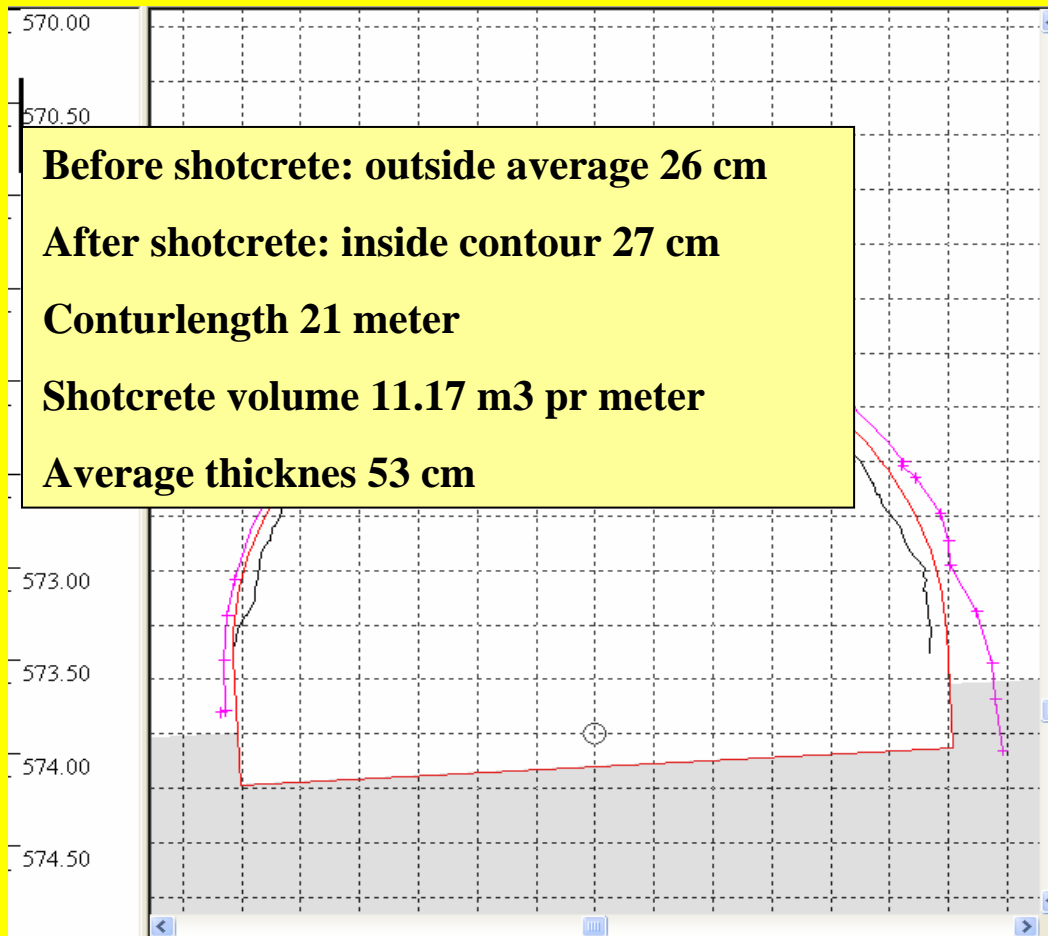
<b>SUMMARY SCAN REPORT</b>			<b>0</b>	<b>4200</b>	<b>4399.5</b>
<b>Parsell:</b>	E-6 KORGFJELLET - SØR	<b>Tunnel length</b>	200.0		
<b>Sign:</b>	IKA	<b>Jumbo id</b>	AMV3GBC-CC		
<b>Date:</b>	27.08.2002				
<b>Comment:</b>	Good luck with your project				

<b>Teoretical contour</b>	<b>Total</b>	<b>per meter</b>	<b>Measured</b>	<b>Total</b>
ContourVolume (m3)	12707.58	63.54	<b>Omit sections without data</b>	
			Overbreak measured	1498.60
Surface Area Top(m2)	3512.4	17.56	Meas-Tunnelmeter	199.5
			Estimated Overbreak	1502.36
Surface Area Floor(m2)	3014.4	15.07	Total Volume estimated tunnel(m3)	14209.94
Surface Area Total (m2)	6526.8	32.63		

# Cross section area as function of peg no/section



# Volumes of shotcrete (Tønsberg)



**Before shotcrete: outside average 26 cm**  
**After shotcrete: inside contour 27 cm**  
**Conturlength 21 meter**  
**Shotcrete volume 11.17 m<sup>3</sup> pr meter**  
**Average thicknes 53 cm**

Kontur		
Areal	82.59	m <sup>2</sup>
Lengde	35.27	m
Såle	0.00	m
Dosering	-3.21	deg

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Areal	82.59	m <sup>2</sup>
Lengde	35.27	m
Såle	0.00	m
Dosering	-3.21	deg

kontur		
	0.13	m <sup>2</sup>
e	1.61	m
t	0.08	m
ver.0.00	0.13	m <sup>2</sup>
vik	0.00	m

Utenfor kontur		
Areal	3.12	m <sup>2</sup>
Lengde	11.94	m
Gj.snitt	0.26	m
Geo over.0.00	3.12	m <sup>2</sup>
Std.avvik	0.23	m

	0.1	m <sup>2</sup>
e	1.7	m
	97.3	%

Estimert		
Areal	5.5	m <sup>2</sup>
Lengde	21.0	m
Målt	56.7	%

kontur		
	5.04	m <sup>2</sup>
e	18.85	m
t	0.27	m

Innenfor kontur		
Areal	0.00	m <sup>2</sup>
Lengde	0.00	m
Gj.snitt	0.00	m

570.70 m		
	-1.12	m
:	7.61	m
	0.22	m

Markør		
Pel:	570.70	m
Side:	-1.12	m
Høyde:	7.61	m
Avvik:	0.22	m

Ut Sprut 1 Bolter 1 Bolter 2

# Scanning of shotcrete thickness

