

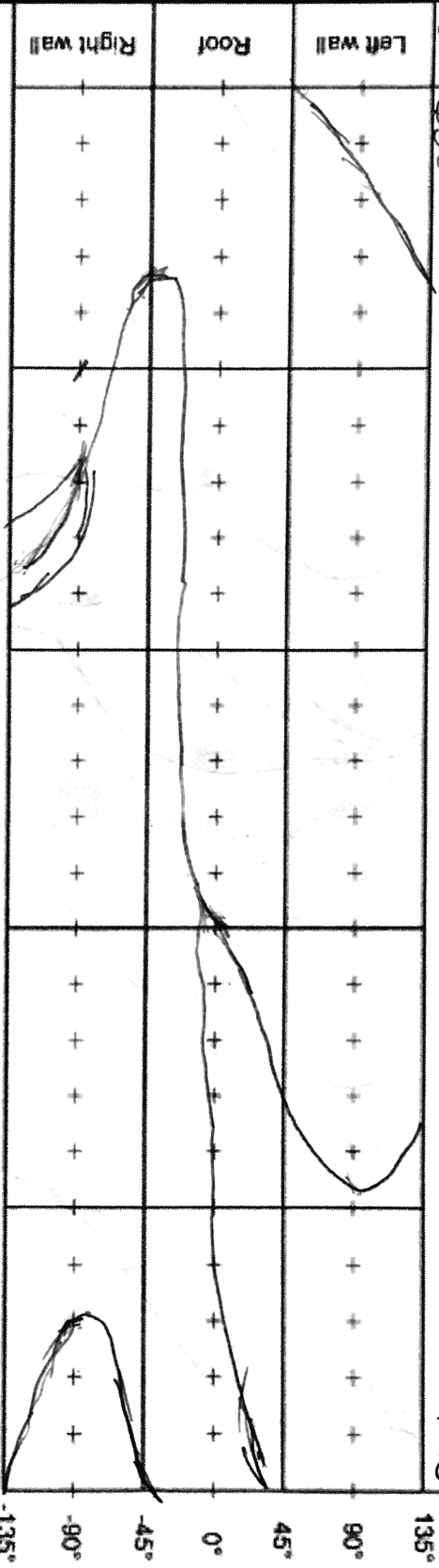
TUNNEL:

Date:

Signature:

Chain-
age 750

745



Gneiss

Fracturing
JLOR

JLOR

L: 15
C: 10
R: 10

JLOR

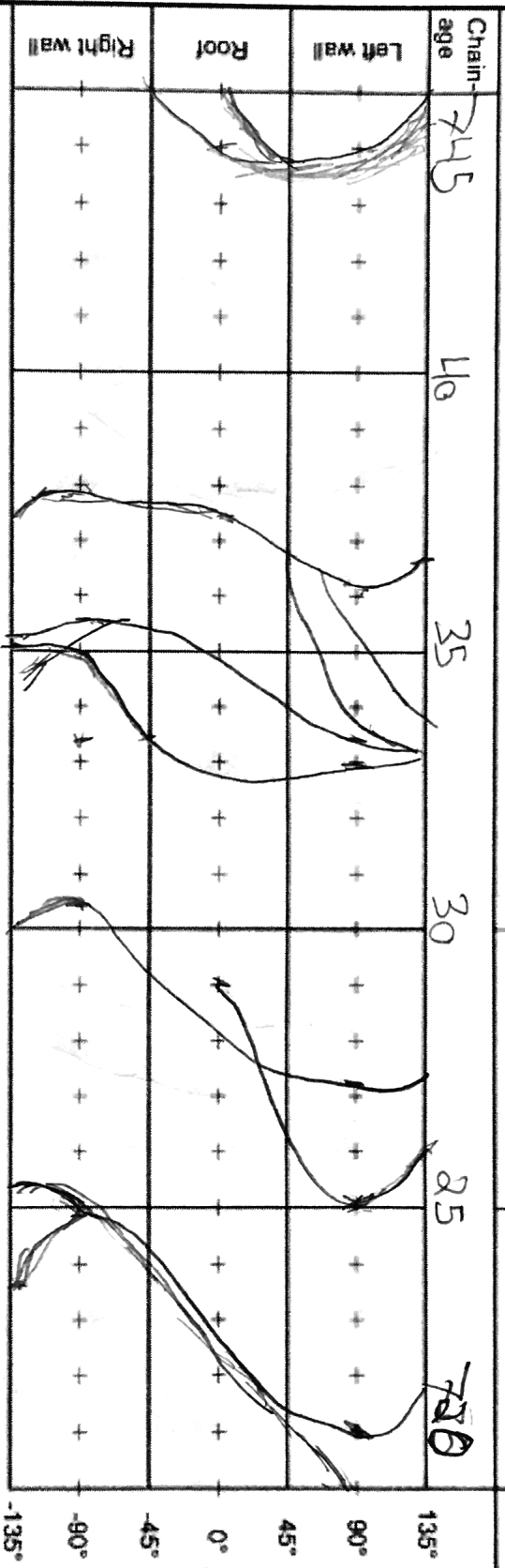
JLOR
~10cm

Comments

TUNNEL:

Date:

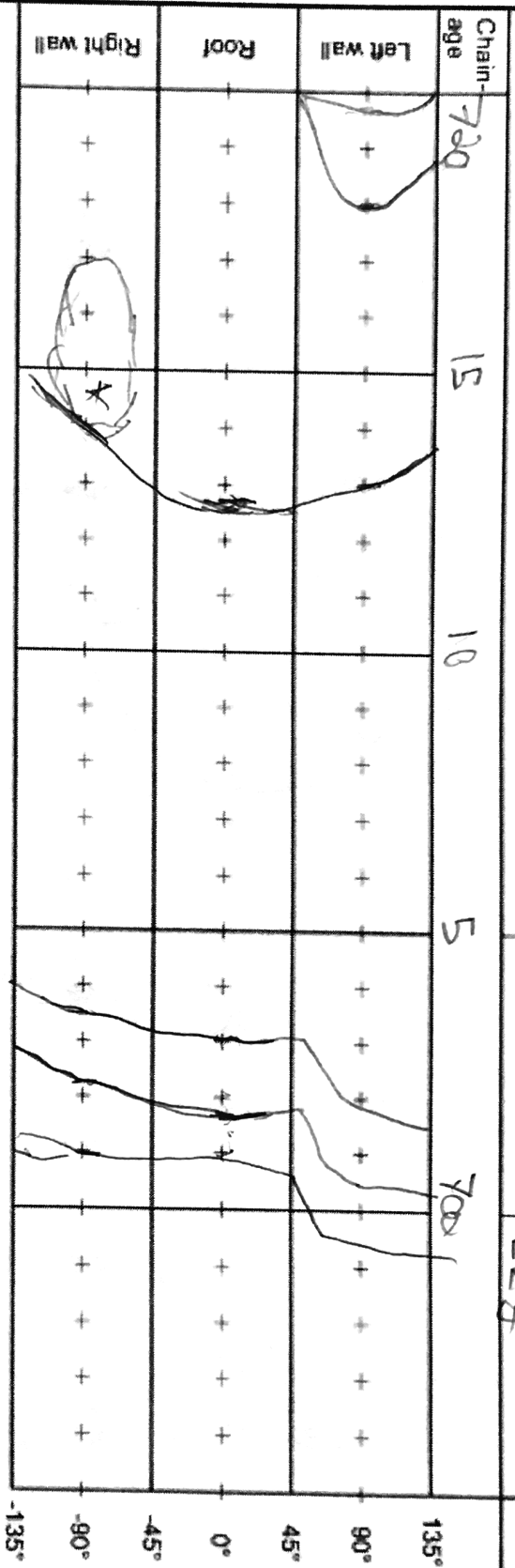
Signature:



Chain- age	40	35	30	25	20
Left wall					
Roof					
Right wall					
Rock type	Gneis	Gneis	Gneis	Gneis / Granit	
Fracturing	E: 6 C: 1 R: 9	E: 8 C: 1 R: 10	E: 15 C: 1 R: 11	E: 6 C: 1 R: 9	E: 4 C: 1 R: 8
Comments					

TUNNEL:

Date:

Signature:
E23

Rock type	Granite	Granite	Granite	Granite	
Fracturing	H L: 2 C: 8 R: 8	H L: 8 C: 8 R: 8	H L: 0 C: 0 R: 0	H L: 3 C: 5 R: 5	
Comments		* Asstalling			

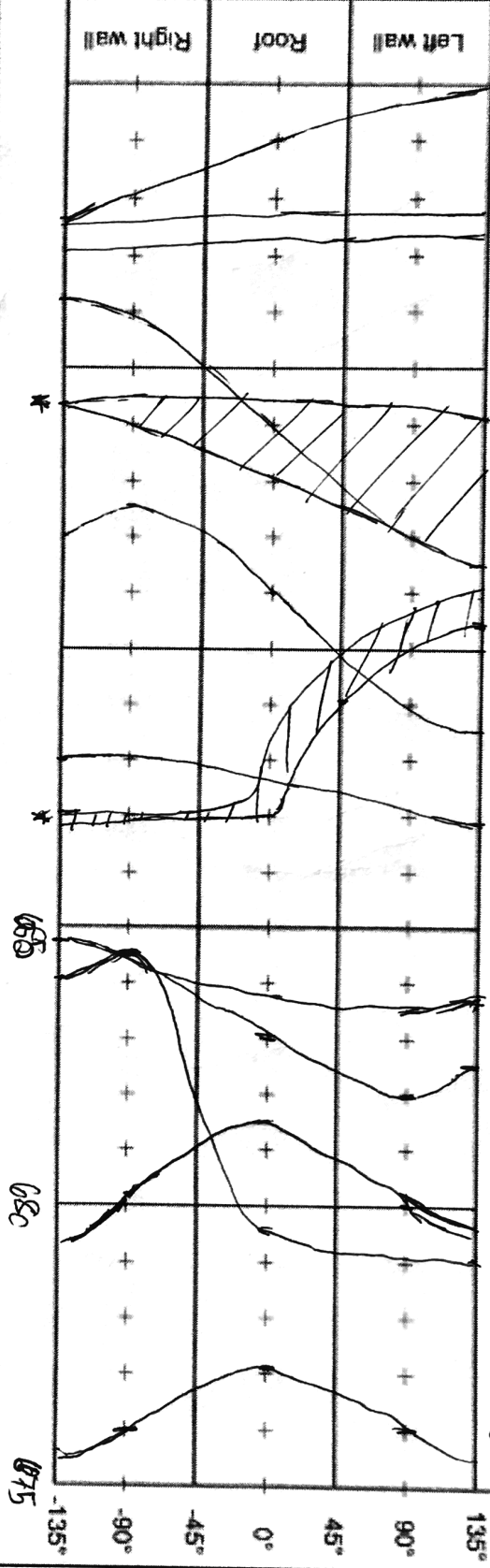
TUNNEL: *Øper kon Tum HPP*

Date: *25.2.18*

Signature: *OK E24*

Chain-
age *8700*

675



R
RAD

Rock type	Fracturing	Comments
	70	Plane ra sprekker Ingen fylling, eller noe karaktimneral i sprekk Helt tømt Liten åpning mellom sprekker
	25	
	60	
	80 50 100 100 100	* Skjær soner
	100	

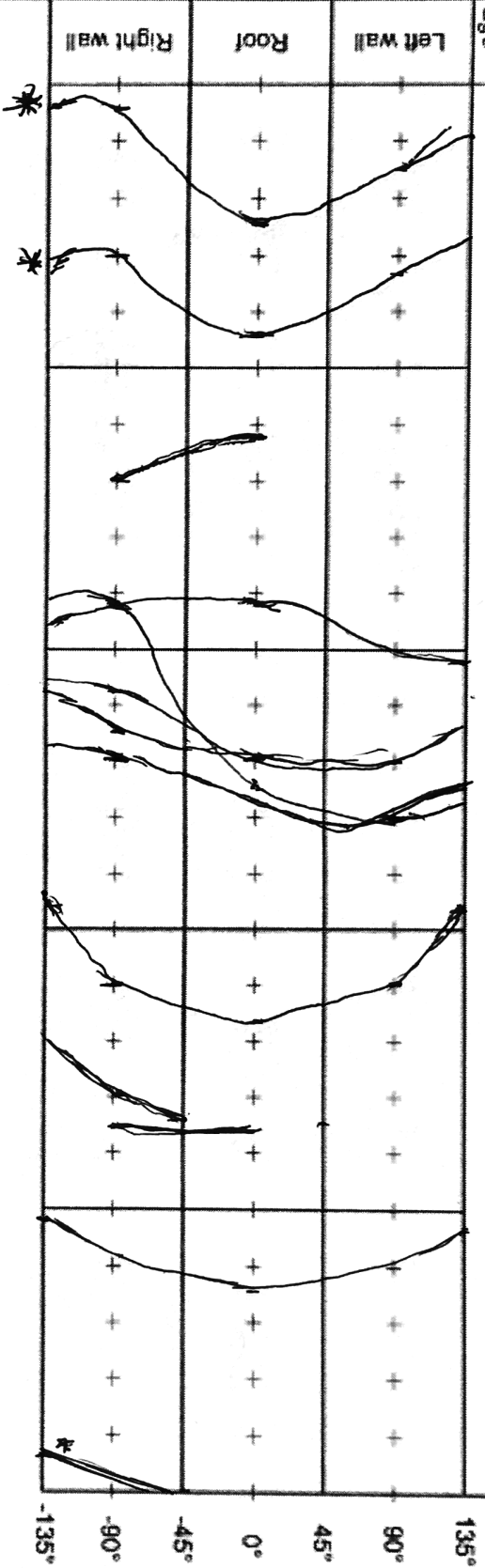
TUNNEL: Upper Ken Tum HPP

Date: 25.2.18

Signature: Off E23

Chain- age 675

650



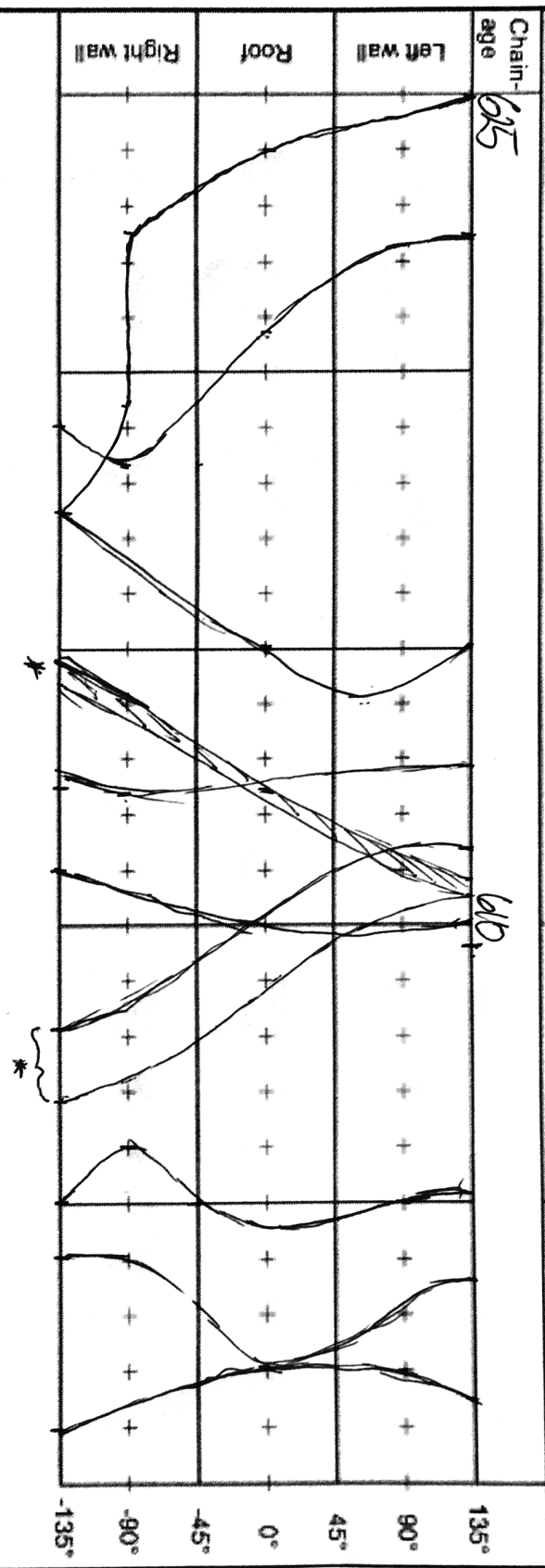
Rock type	Fracturing	Comments
RD 80 90 100	100	60 90 85 100 60 80
		60 90 90 100 60
		60 60 60 40 40
		60-56 Faulty
		* Skidone wed air-filling (0-10 cm)

TUNNEL: Upper Kon Tum HPP		Date: 25. 2. 18	Signature: Øf
Chain-age	630	640	630
Left wall			
Roof			
Right wall			
Rock type	<p>Fracturing</p> <p>Comments</p>		
Fracturing	<p>Fracturing</p> <p>Comments</p>		
Comments	<p>Fracturing</p> <p>Comments</p>		

TUNNEL: Upper Kon Tum HPD

Date: 25.2.18

Signature: *GV*



RAD

Rock type	Fracturing	Comments
90 95 95 95 100 65 60 80 70 50 40 90 95 60 80 95 100 80 80 80 40 40 40 95 85 80		* Skjærsoner
		* Kvarfårer

TUNNEL:

Date:

Signature:

Chain-
age 8600

595

Chain- age	8600	595	
Left wall			
Roof			
Right wall			
<div style="display: flex; justify-content: space-between;"> N 80° E 25° N 20° E 85° * N 140° E 20° </div>			
Rock type			
Fracturing	↓ R 35 C 25 L 40	R 13 C 20 L 20	R 8 C 25 L 8
Comments		* Tett oppsprukket med utfall av noe stein	Sirkel med 3 bolter og lift anneringsnett (ca 1-2 m ²)

TUNNEL:				Date:	Signature:
Chain-age	8595				590
Left wall	+	+	+	+	+
Roof	+	+	+	+	+
Right wall	+	+	+	+	+
<div style="display: flex; justify-content: space-between;"> <div> <p>N0°E 90°</p> </div> <div> <p>N142°E 80°</p> </div> </div>					
Rock type					
Fracturing	Jv R 28 C 14 L 14	R 28 C 30 L 20	R 17 C 50 L 16	R 30 C 20 L 18	R 25 C 15 L 21
Comments	Left oppsprukket av mange små skjell og iss. Ingen sprekk åpning, inneholder kanskje oksider jern.				

TUNNEL:				Date:	Signature:
Chain-age	590				585
Left wall	+	+	+	+	+
Roof	+	+	+	+	+
Right wall	+	+	+	+	+
Rock type					
Fracturing	R 28 C 26 L 18	R 14 C 25 L 14	R 19 C 20 L 14	R 13 C 15 L 17	R 12 C 12 L 12
Comments	Mure overgående sprækker med kantsvindel og jern på overflade				

TUNNEL:					Date:	Signature:		
Chain-age	585						580	135°
Left wall	+	+	+	+	+	+	90°	
Roof	+	+	+	+	+	+	0°	
Right wall	+	+	+	+	+	+	-45°	
	+	+	+	+	+	+	-90°	
N 64° E 75°								-135°
N 133° E 80°								
Rock type								
Fracturing	Jr R 17 C 9 L 16	R 13 C 11 L 12	R 13 C 9 L 14	R 13 C 12 L 27	R 18 C 15 L 20			
Comments								

TUNNEL:

Date:

Signature:

Chain-
age

580

575

135°

Left wall

+

+

+

+

+

+

+

+

+

+

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+

+

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Right wall

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N 164° E

85°

N 278° E

85°

-135°

-90°

-45°

0°

45°

90°

135°

Rock type

Fracturing

Comments

R 22

C 8

L 8

R 10

C 13

L 16

R 16

C 16

L 12

R 14

C 5

L 15

R 8

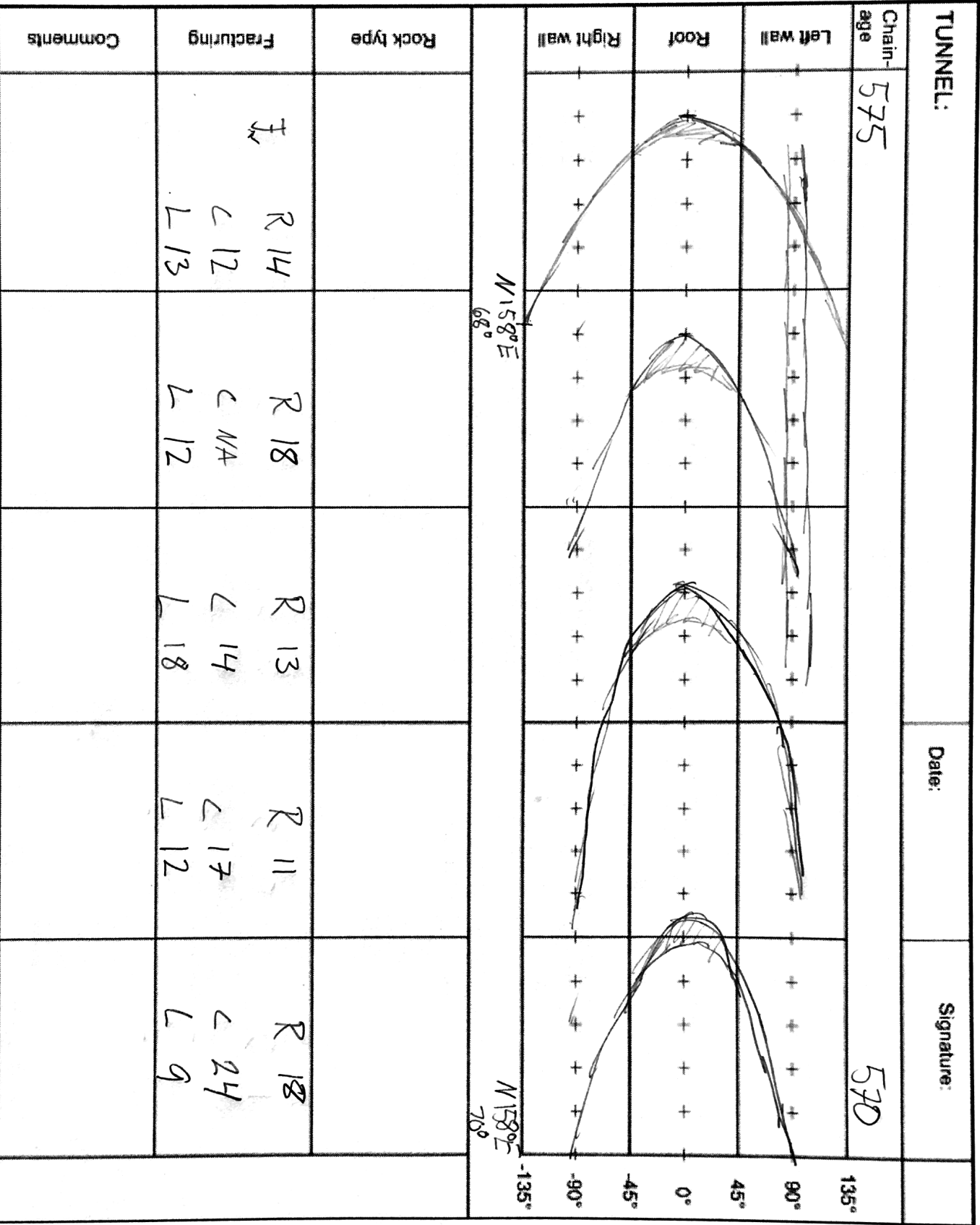
C 4

L 14

jern på

spekteretaler, ingen åpning

Noe utfall



TUNNEL:				Date:	Signature:	
Chain-age	570					565
Left wall	+ + + + +	+ + + + +	+ + + + +	+ + + + +	+ + + + +	135°
Roof	+ + + + +	+ + + + +	+ + + + +	+ + + + +	+ + + + +	0°
Right wall	+ + + + +	+ + + + +	+ + + + +	+ + + + +	+ + + + +	-45°
						-90°
						-135°
Rock type						
Fracturing	J4 R 28 C NA L 14	R 15 C NA L 16	R 15 C NA L 15	R 10 C NA L 10	R 11 C NA L 12	
Comments		Jernbelegg på Skifte segger	Sprikke flater , vanskelig å se	alle sprikkeplan		

TUNNEL:				Date:	Signature:
Chain-age	565				560
Left wall	+	+	+	+	+
Roof	+	+	+	+	+
Right wall	+	+	+	+	+
Rock type					
Fracturing	F ₁ R 16 C 15 L 11	R 18 C 23 L 17	R 19 C 15 L 25	R 14 C 5 L 18	R 24 C 5 L 25
Comments	Noen spjeldar her öppning på ca 1-5mm.				

TUNNEL:

Date:

Signature:

Chain-
age

560

550

Left wall



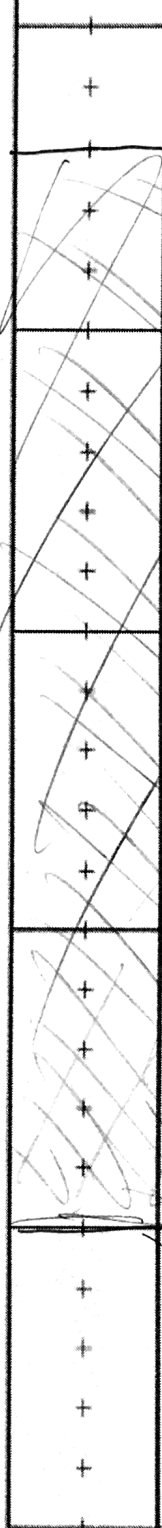
Roof



Right wall



135°
90°
45°
0°
-45°
-90°
-135°



Rock type



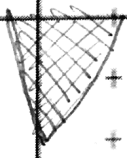

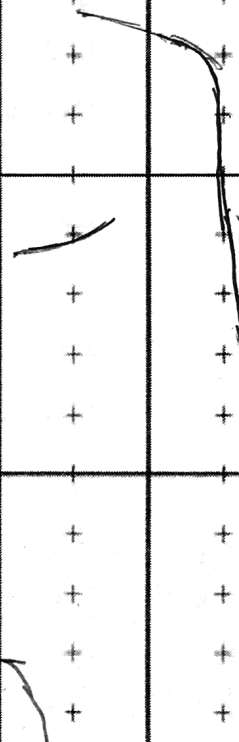
Fracturing



Comments

→ rockstone siket
og sprøkkeløst.

med ringbeams, armering

TUNNEL: <i>Kon Tum</i>			Date: <i>7.3</i>	Signature: <i>[Signature]</i>
Chain- age	<i>8530</i>			<i>545</i>
Left wall				
Roof				
Right wall				
Rock type				
Fracturing	<i>J_v</i> R 10 C 13 L NA	R 7 C 10 L 13	R 12 C 12 L NA	R 15 C 14 L 12
Comments	<i>Sitting</i>	<i>Noe affall i kvarter i spreder, ingen åpning.</i>	<i>overgangen vershtc vegg/tak</i>	

135°
90°
45°
0°
-45°
-90°
-135°

TUNNEL:

Kon Tum

Date:

Signature:

Chain-
age 8545

540

135°	Left wall					Right wall	
90°	+	+	+	+	+	+	+
45°	+	+	+	+	+	+	+
0°	+	+	+	+	+	+	+
-45°	+	+	+	+	+	+	+
-90°	+	+	+	+	+	+	+
-135°	+	+	+	+	+	+	+

Rock type					
Fracturing	J _v R 14 C 14 L 16	R 8 C 14 L 11	R 20 C 14 L (9)	R 12 C (12) L (10)	R 14 C 13 L NA
Comments	åpning mellem spekkelplan	Spekkel med innhold av fuktig mellom 543 - 544	krystallisert kvarter, opptunst ca 5-10 cm tykk		

Skittet vegger, vannhelig a se alt.

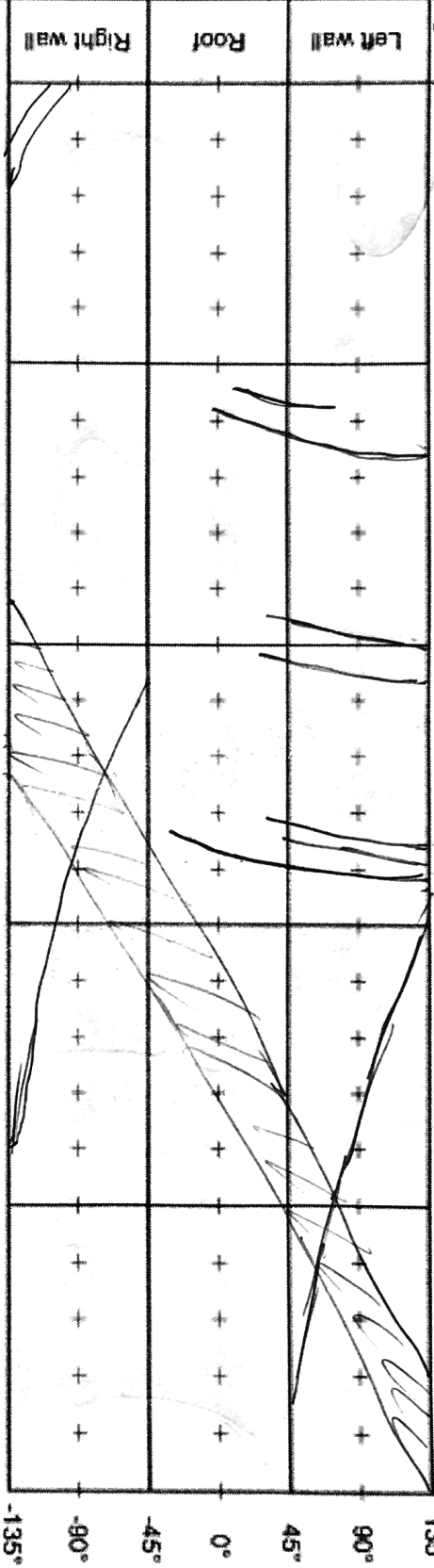
TUNNEL: *Kon Tum*

Date: *7.3*

Signature: *[Signature]*

Chain-
age *515*

510



Rock type	Fracturing	Comments
	<i>J_v</i> <i>R NA</i> <i>C NA</i> <i>L NA</i>	<i>*</i> <i>Speckelkase</i> <i>Swart opkomst</i>
	<i>R 44</i> <i>C NA</i> <i>L 16</i>	<i>7</i> <i>same</i>
	<i>R 44</i> <i>C 11</i> <i>L 35</i>	
	<i>R 44</i> <i>C</i> <i>L 20</i>	<i>Mye uitfall</i> <i>Die verske veg.</i>
	<i>R 17</i> <i>C NA</i> <i>L 12</i>	<i>Shennende vinn later in.</i>

TUNNEL:

Ken Tum

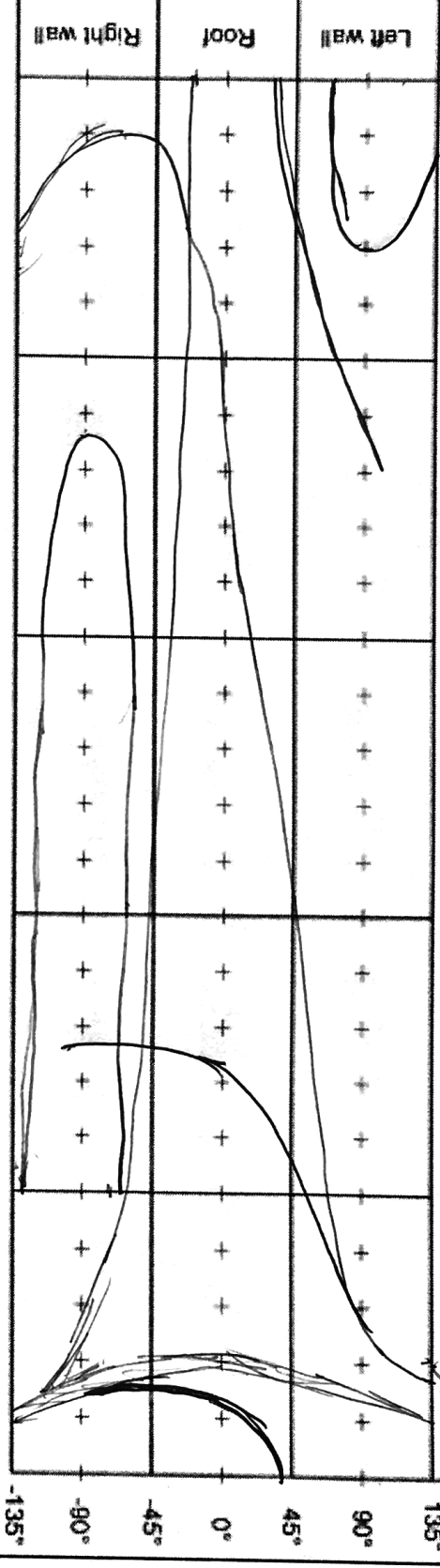
Date: 7. 3

Signature:

[Signature]

Chain-age 8510

505



Rock type	Fracturing	Comments
	<p>J_v</p> <p>R 20</p> <p>C NA</p> <p>L 23</p>	<p>Noen sprekker or litt fuktige</p> <p>Oppkøst steinmateriale i sprekker</p> <p>Ingen åpning</p>
	<p>R 27</p> <p>C NA</p> <p>L 16</p>	
	<p>R 11</p> <p>C NA</p> <p>L 13</p>	
	<p>R 16</p> <p>C 16</p> <p>L 7</p>	
	<p>R 32</p> <p>C NA</p> <p>L 15</p>	

TUNNEL: <i>Kon Tum</i>		Date: <i>7.3</i>	Signature: <i>at</i>
Chain-age	<i>8505</i>	<i>500</i>	
Left wall	<i>[Sketch of left wall profile]</i>		
Roof	<i>[Sketch of roof profile]</i>		
Right wall	<i>[Sketch of right wall profile]</i>		
Rock type			
Fracturing			
Comments	<i>Sitet med sprækkelinje og anmerkningsnett. Lige synlig berg. Skrift opskrævet.</i>		

TUNNEL:		Date:		Signature:	
Km 1.00		5.2.18		[Signature]	
Chainage	8500			8490	
Left wall	+	+	+	+	+
Right wall	+	+	+	+	+
Roof	+	+	+	+	+
Right wall	+	+	+	+	+
Rock type					
Fracturing	NA	Spraybedrock decker del west as berg overflade			
Comments					

TUNNEL: <u>Kon Tum</u>		Date: <u>5.2.18</u>	Signature: <u>CH</u>
Chain-age	<u>2190</u>		
Left wall			
Roof			
Right wall			
<div style="display: flex; justify-content: space-between;"> M160°E 80° </div>			
Rock type			
Fracturing	<u>3</u> <u>R 12</u> <u>C 10</u> <u>L 12</u>	<u>R 2</u> <u>C 6</u> <u>L 4</u>	<u>R 4</u> <u>C NA</u> <u>L 8</u>
Comments			

TUNNEL: <i>Kon Tunn</i>			Date: <i>5.2.17</i>	Signature: <i>BT</i>	
Chain-age	<i>8485</i>				<i>480</i>
Left wall	+ + + + +	+ + + + +	+ + + + +	+ + + + +	135°
Roof	+ + + + +	+ + + + +	+ + + + +	+ + + + +	45°
Right wall	+ + + + +	+ + + + +	+ + + + +	+ + + + +	0°
	+ + + + +	+ + + + +	+ + + + +	+ + + + +	-45°
	+ + + + +	+ + + + +	+ + + + +	+ + + + +	-90°
	+ + + + +	+ + + + +	+ + + + +	+ + + + +	-135°
<i>N 338° E 90°</i> <i>N 176° E 85°</i> <i>N 160° E 80°</i>					
Rock type					
Fracturing	<i>T_v</i> R 11 C (5) L 7	R 18 C 11 L 5	R 7 C 10 L 4	R 4 C 4 L 8	R 18 C 9 L 8
Comments	<i>Sammen vokste sprekker, med bølget form</i>				

TUNNEL:

Kon Tum

Date: 5.2.48

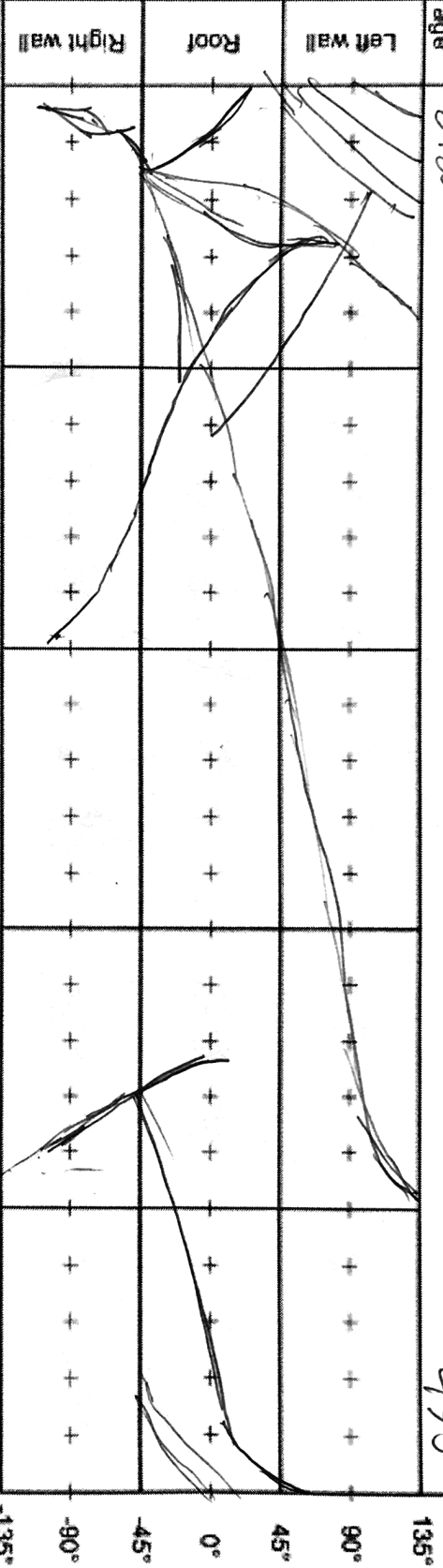
Signature:

Q4

Chain-
age

8480

475

N 30° E N 126° E
80° 75°N 174° E
95°

Rock type	Fracturing	Comments
	R 13 C 0 L 8	
	R 3 C 6 L 0	
	R 7 C 5 L 5	
	R 17 C 1 L 1	
	R 14 C 3 L 8	
		Sammenvekste sprekker, noen med innhold av kverks

TUNNEL:

Kon Tum

Date: 5.2.99

Signature:

[Signature]

Chain-
age

8475

470

Left wall



Roof



Right wall



135°
90°
45°
0°
-45°
-90°
-135°

N 50°E
90°N 102°E
85°N 166°E
75°

Rock type

Fracturing

Comments

R 11

C 6

L 8

R 7

C 14

L 6

R 12

C 10

L 12

R 0

C 3

L 10

R 0

C 11

L 0

TUNNEL:

Kon Tum

Date: 7/1/2011

Signature

nature:

Chain-
eye

8470

465

135°

5.

3

45

IBM 487

Roof

Right wall

$N 34^{\circ} E$ $E 0^{\circ} N$

8

80

N 30 E 86.0

98

707212N

Q9

Abstract

Abstract

Rock type

Fracturing

Comments

R10 27

1

55

R17

④

8

2

2

 ∞

41

6

6


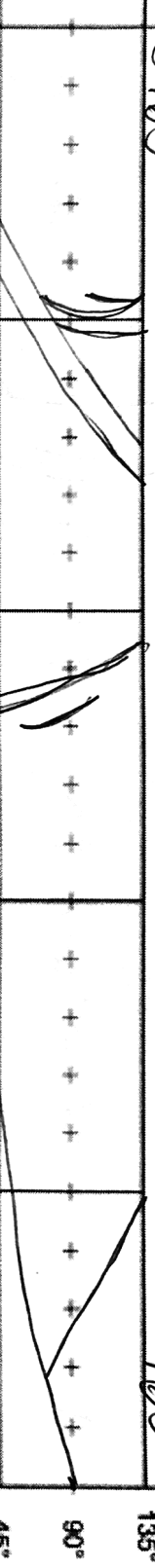
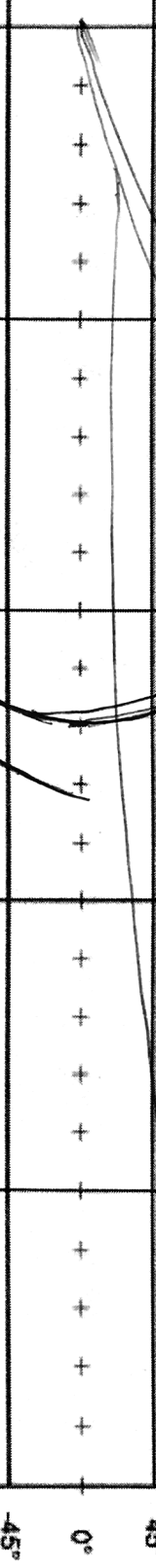
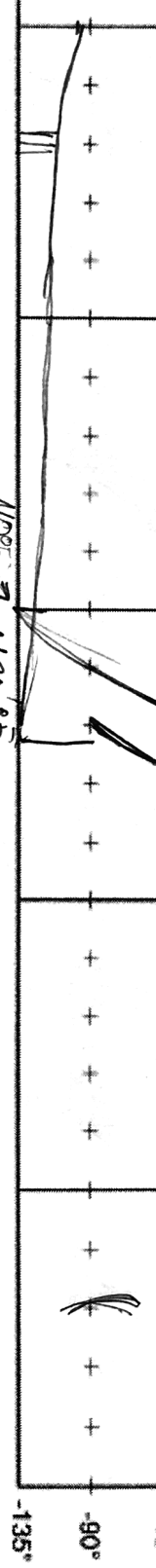
14 K

三

157

Sammensatte sprekker i seg selv

Noe awful
i take

TUNNEL: Kon Tum		Date: 5.2.18	Signature: 
Chain-age	8465		460
Left wall			
Roof			
Right wall			
<p>NOTE → N 200° E 90°</p>			
Rock type			
Fracturing	1 R 7 C 9 L 0	R 3 C 3 L 4	R 6 C 3 L 12
Comments	Utfall i tak Sammenvekste sprekker		

TUNNEL:

Kon Tum

Date:

5.2.12

Signature:

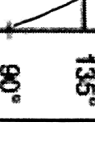
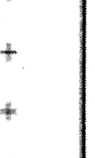
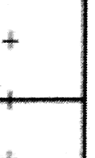
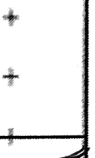

Chain-
age

8460

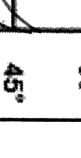
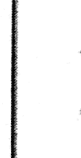
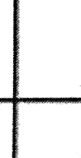
455

135°

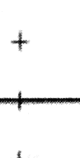
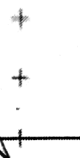
Left wall



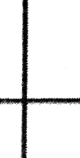
Roof



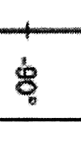
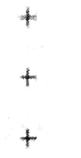
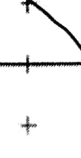
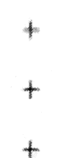
Right wall



Right wall



Right wall

N 188°E
85°N 50°E
88°

-135°

-90°

-45°

0°

45°

90°

135°

Rock type

Fracturing

Comments

3

R 9
C 0
L 8R 16
C 12
L 0R 0
C 5
L 8R 7
C NA
L 7R 3
C 6
L 5

Sammenhengste spekker, noe kants i enkelte spekker

TUNNEL:

Kon Tum

Date:

5.2.18

Signature



Chain-
age

8455

450

135°

Left wall

+ + + + +

+ + + + +

+ + + + +

+ + + + +

+ + + + +

+ + + + +

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Roof

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Right wall

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+ + + + +

+ + + + +

+ + + + +

-135°

-90°

-45°

0°

45°

90°

135°

Rock type

Fracturing

Comments

F_u

R 0
L 0
L 5

R 0
L 0
L 0

R 0
L 0
L 0

R 1
L 0
L 0

R 3
L 0
L 0

TUNNEL: ~~2445~~ Kon Tum

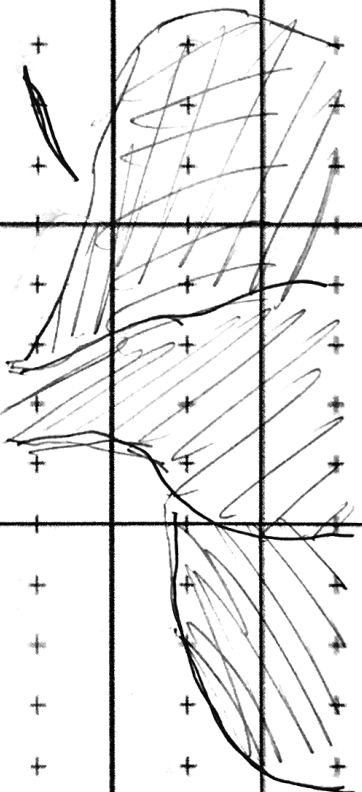
Date: 5.2.18

Signature: 

Chain-
age 2450


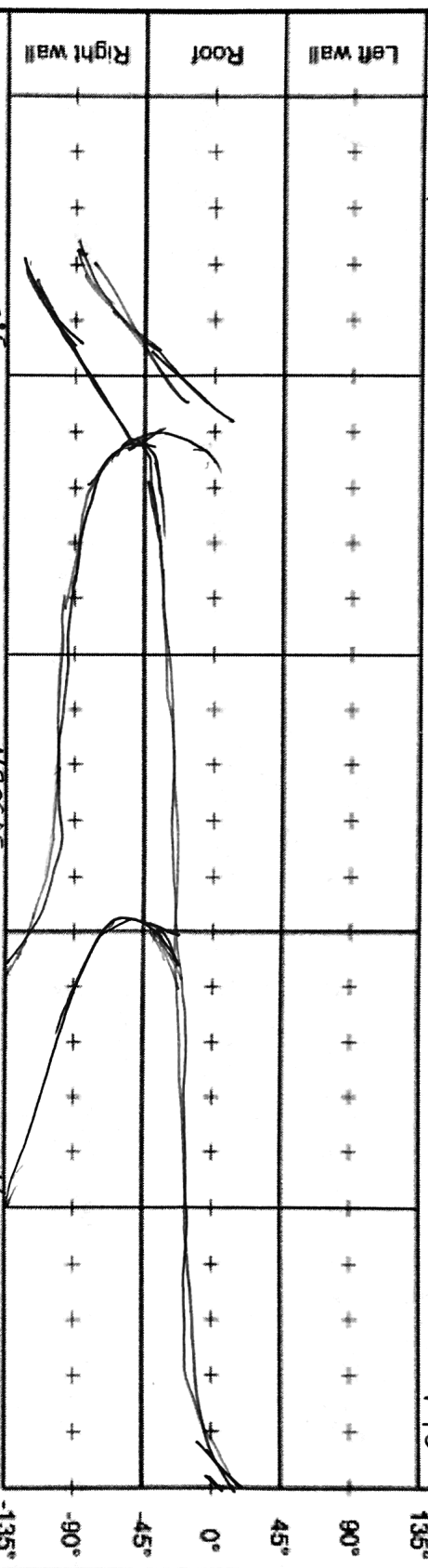
445


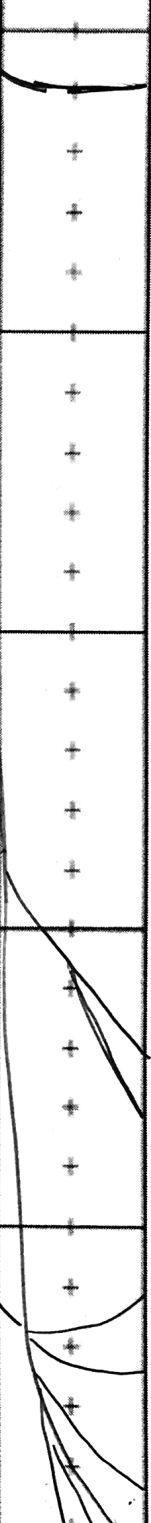
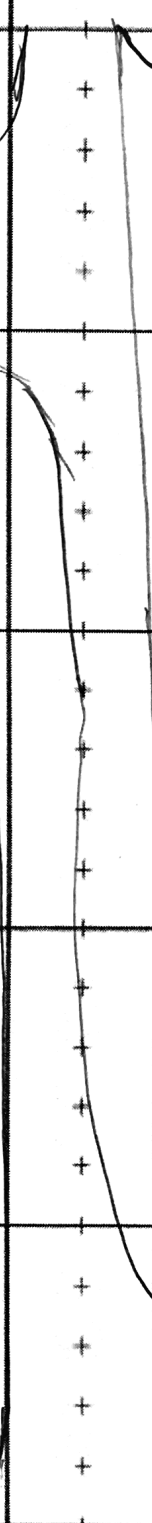
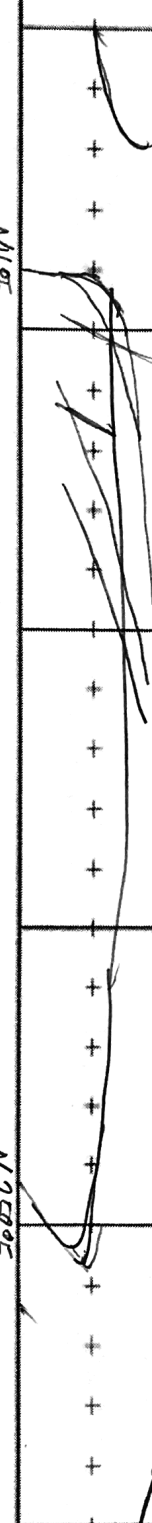
135°	90°	45°	0°	-45°	-90°	-135°
Left wall	+	+	+	+	+	+
Roof	+	+	+	+	+	+
Right wall	+	+	+	+	+	+



N 310°E 45°
N 210°E 45°

Rock type	Fracturing	Comments
	R 6 C 0 L 0	
	R 13 C 0 L NA	
	R (35) C NA L NA	
	R 36 C NA L NA	
	R 28 C NA L NA (44)	Sikret med og sprøkkeløst. Mye utfall

TUNNEL: Kon Tum			Date: 5.2.18	Signature: 	
Chain-age	8445				440
Left wall	+	+	+	+	+
Roof	+	+	+	+	+
Right wall	+	+	+	+	+
					
Rock type					
Fracturing	J _r R 16 C 0 L (6)	R 17 C 0 L NA	R 11 C 0 L NA	R 16 C 0 L NA	R 16 C 19 L 0
Comments	Noen speker har åpning på 1-2m. Ingen fylling				

TUNNEL: Kon Tum		Date: 5.2.18	Signature: 
Chain-age	8440		435
Left wall			
Roof			
Right wall			
<div style="display: flex; justify-content: space-between;"> N16°E 85° N258°E 85° </div>			
Rock type			
Fracturing	J R 7 C (10) L 8	R 6 C 4 L 3	R 12 C 0 L 6
Comments	Area speckles have marginal spining when filling.		

TUNNEL: Kon Tum

Date: 1.3.16

Signature: *off*

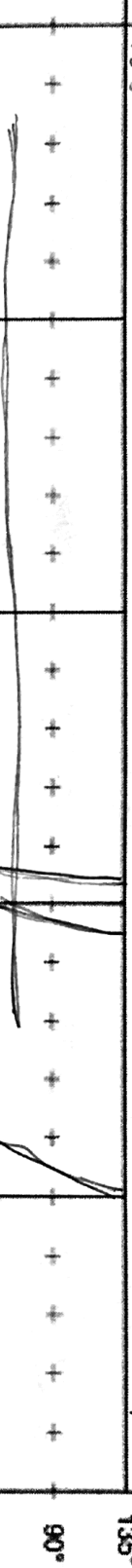
Chain-
age

435

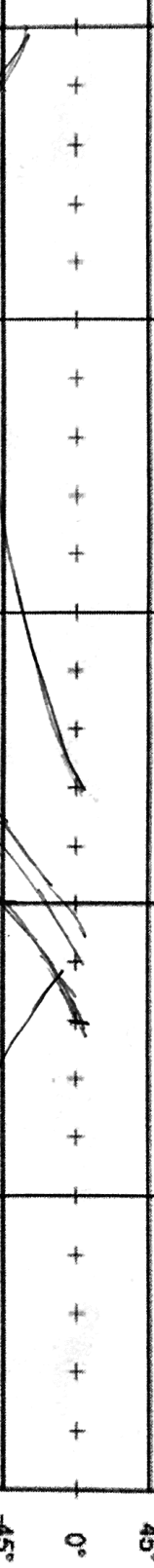
430

135°

Left wall



Roof



Right wall



-135°

-90°

-45°

0°

45°

90°

Rock type

R 6

R 7

R 8

R 2

R 5

Fracturing

L 0

L 0

L 4

L 9

L 8

Comments

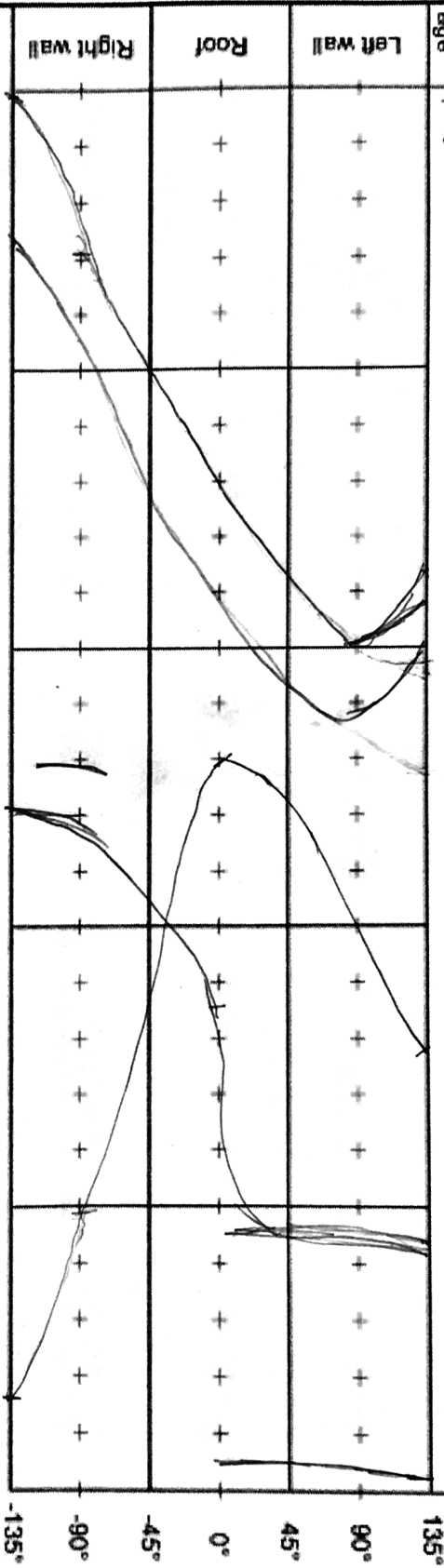
TUNNEL: Kon Tum

Date: 1.3.18

Signature: *QA*

Chain-age 430

425



Rock type	Fracturing	Comments
	$\begin{matrix} \text{Ju R: 7} \\ \text{C:} \\ \text{L: 7} \end{matrix}$	Spekterstand: 2m En vannførende spekk
	$\begin{matrix} \text{Ju R: 5} \\ \text{C:} \\ \text{L: 4} \end{matrix}$	
	$\begin{matrix} \text{Ju R: 7} \\ \text{C: 7} \\ \text{L: 6} \end{matrix}$	Spekteinhold: 10%
	$\begin{matrix} \text{Ju R: 0} \\ \text{C:} \\ \text{L: 9} \end{matrix}$	Kant, med noe jernoksid på overflate
	$\begin{matrix} \text{Ju R: 2} \\ \text{C:} \\ \text{L: 7} \end{matrix}$	

TUNNEL:

Kon Tum

Date: 10.3

Signature: Chain-
age

8420

415

135°

90°

45°

Left wall

+

+

+

+

+

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-135°

-90°

-45°

0°

45°

90°

135°

N8E
45°N30E
80°

Rock type

fv

R 5

C NA

L 3

R 5

C NA

L 4

R 11

C NA

L 4

R 3

C NA

L 4

R 3

C NA

L 15


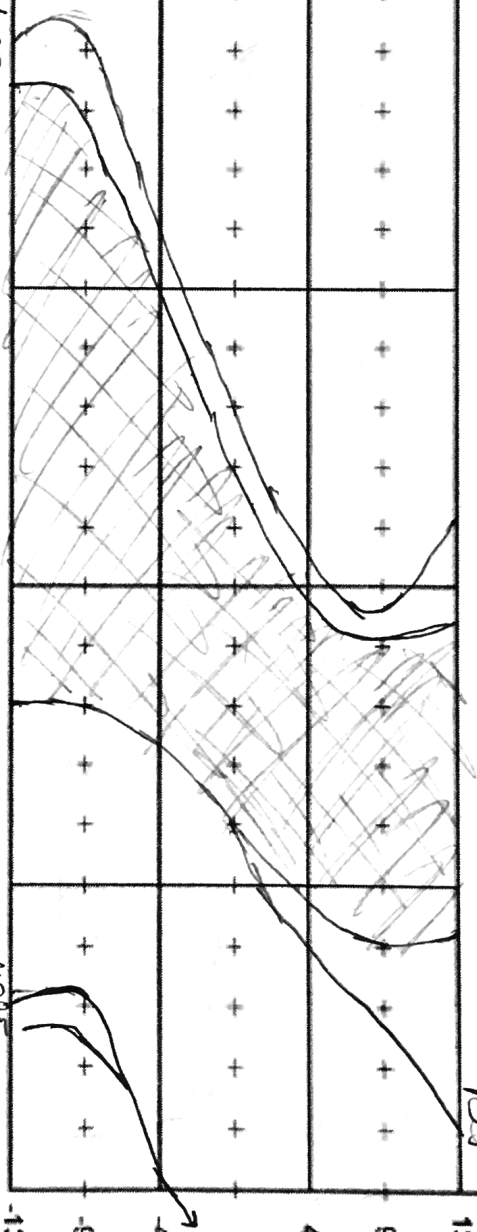
Fracturing

Comments

Sammennokste spekker

med tyne

öler av
karks.

TUNNEL:			Date: 10.3	Signature: 	
Chain-age	8415				405
Left wall	+ + + + +	+ + + + +	+ + + + +	+ + + + +	135°
Roof	+ + + + +	+ + + + +	+ + + + +	+ + + + +	45°
Right wall	+ + + + +	+ + + + +	+ + + + +	+ + + + +	0°
					-45°
					-90°
					-135°
					
Rock type		Mekris sakketsone Sikt med armering og spraybetong.			
Fracturing	f_v R 1 C NA L 5	R NA C NA L 5	R NA C NA L 7	R NA C NA L NA	R 14 C NA L 8
Comments		Fuktig sakketsone.			

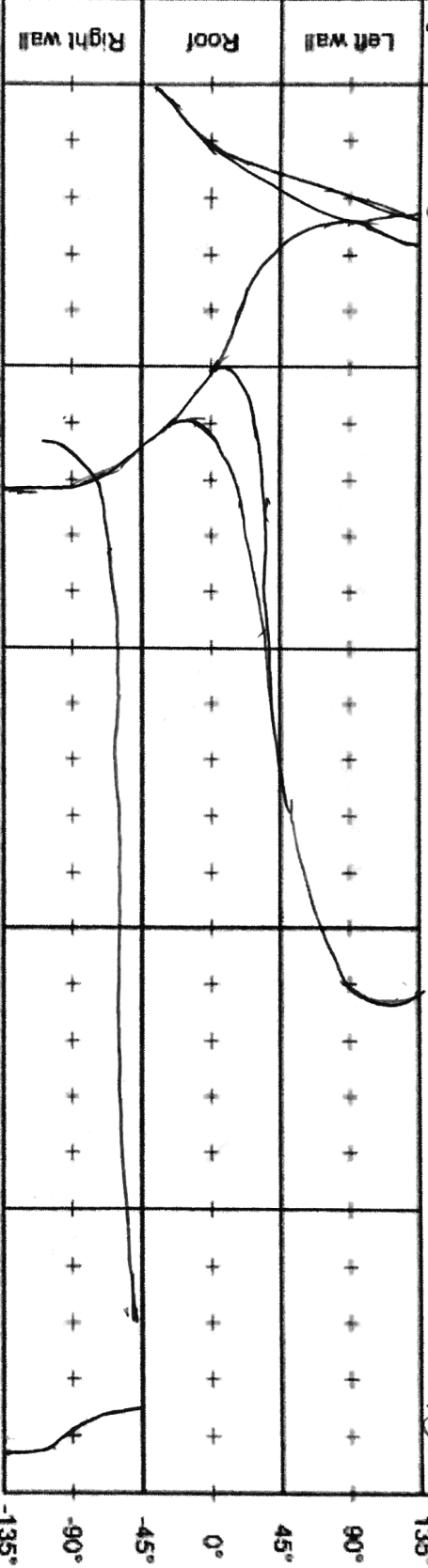
Ken Tam

10.3

96

84105

0017



N20E
85

Rock type	Fracturing	Comments
	R 4 C NA L 10	
	R 10 C NA L 11	Tyne fyllingen av karts. Ingen forstiving.
	R 4 C NA L 4	Bølge sprukket
	R 3 C NA L 8	
	R 8 C NA L 8	

TUNNEL: Kon Tum			Date: 10.3	Signature: <i>GA</i>
Chain-age	8400			395
Left wall				
Roof				
Right wall				
<div style="display: flex; justify-content: space-between;"> 135° 90° 45° 0° -45° -90° -135° </div>				
<div style="display: flex; justify-content: space-between;"> 118°E 80° </div>				
Rock type				
Fracturing	1 R 7 C NA L 6	R 3 C NA L 3	R 8 C NA L 14	R 8 C NA L 6
Comments		Ingen fylling. Velding	Ru spreke flater	

Mye skift i bak

TUNNEL:

Kon Tum

Date:

10.3

Signature:

[Signature]

Chain-age

4395

390

Left wall



Roof



Right wall



N20E
20°

135°
90°
45°
0°
-45°
-90°
-135°

Rock type

Fracturing

Comments

7
R 10
C N4
L 6

R 4
C N4
L N4

R 4
C N4
L 5

R 0
C 0
L 0

R 0
C 0
L 0

En fuking
speck.

TUNNEL: <i>Kon Tum</i>		Date: <i>10.3</i>	Signature: <i>CE</i>
Chain- age	<i>4390</i>		<i>385</i>
Left wall			
Roof			
Right wall			
Rock type			
Fracturing	<i>Weathered berg.</i>		
Comments			

TUNNEL:

Kon Tum

Date:

10.3

Signature:

re: 

Chain-
age

4385

380

135°

MEM 487

8.

45

Root

45.

45.

06

-135-

Right wall

N140E

880

 $N 10^{\circ} E$

850

Rock type

Fracturing

Comments

4

17

0

22

27

7C

37

R 12

70

710

R 20

C 12

75

NO

07

7

Vamfjörður spæðir með fylling og brætt og
overflæ forðing og jöndid.

TUNNEL: Kon Tum				Date: 10.3	Signature: <i>Old</i>	
Chain-age	8380					375
Left wall	+	+	+	+	+	135°
	+	+	+	+	+	90°
	+	+	+	+	+	45°
Roof	+	+	+	+	+	0°
	+	+	+	+	+	-45°
Right wall	+	+	+	+	+	-90°
	+	+	+	+	+	-135°
Rock type						
Fracturing	J _r R 6 C 3 L 4	R 5 C NA L 2	R 18 C NA L 0	R 8 C NA L 0	R 9 C NA L 2	
Comments	En sprakk inneholder forvirket Vannførende "Berg knekket for 10cm skjær" En sprakk or gamle glatt, reiser or re. knusningsone,					fullig, sandig materiale Bølget form

TUNNEL:

Kon Tum

Date: 10.3

Signature:


Chain-
age

375

370

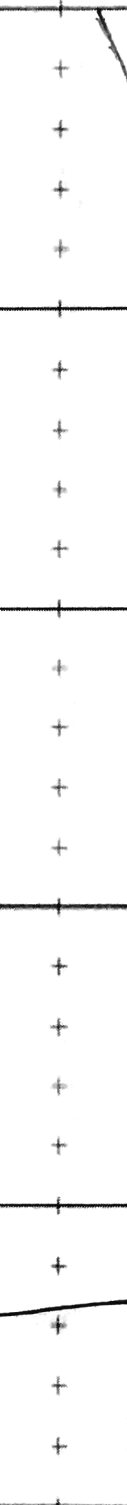
Left wall



Roof



Right wall



135°
90°
45°
0°
-45°
-90°
-135°

Rock type

Fracturing

R 3
 C 15
 L 0

 R 0
 C 11
 L 0

 R 0
 C 7
 L 25

 R 0
 C 5
 L 10

 R 4
 C 0
 L 8

Comments

Tortellone
 spektor fra
 380-375.
 Markert område er vedlig oppkupert

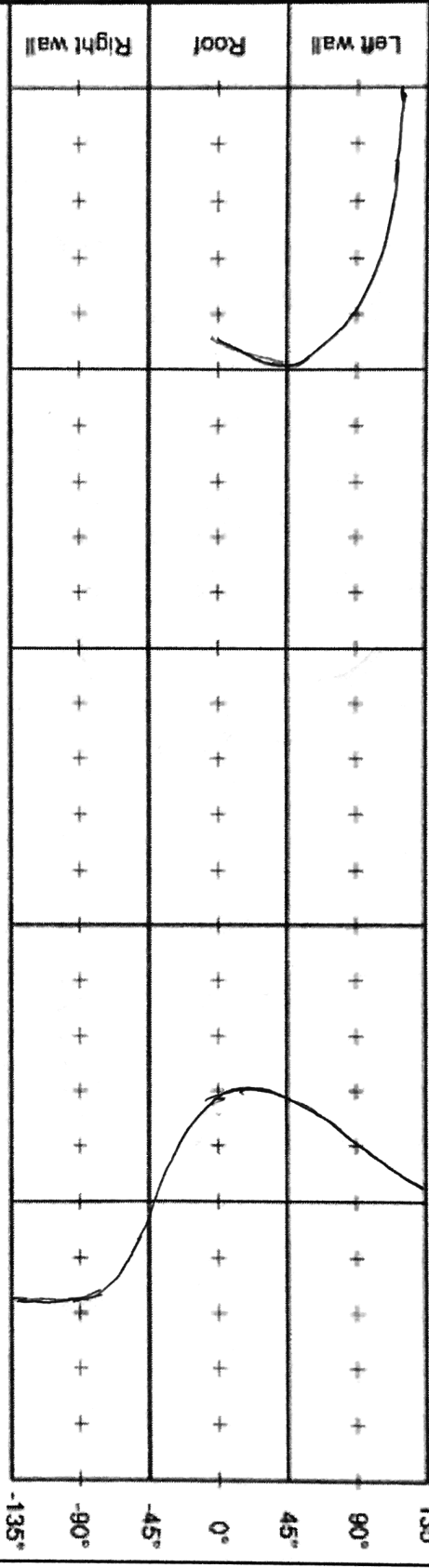
TUNNEL: Kon Tum

Date: 10.3

Signature: *OK*

Chain-age 8370

365


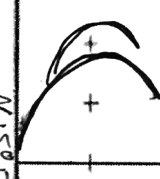


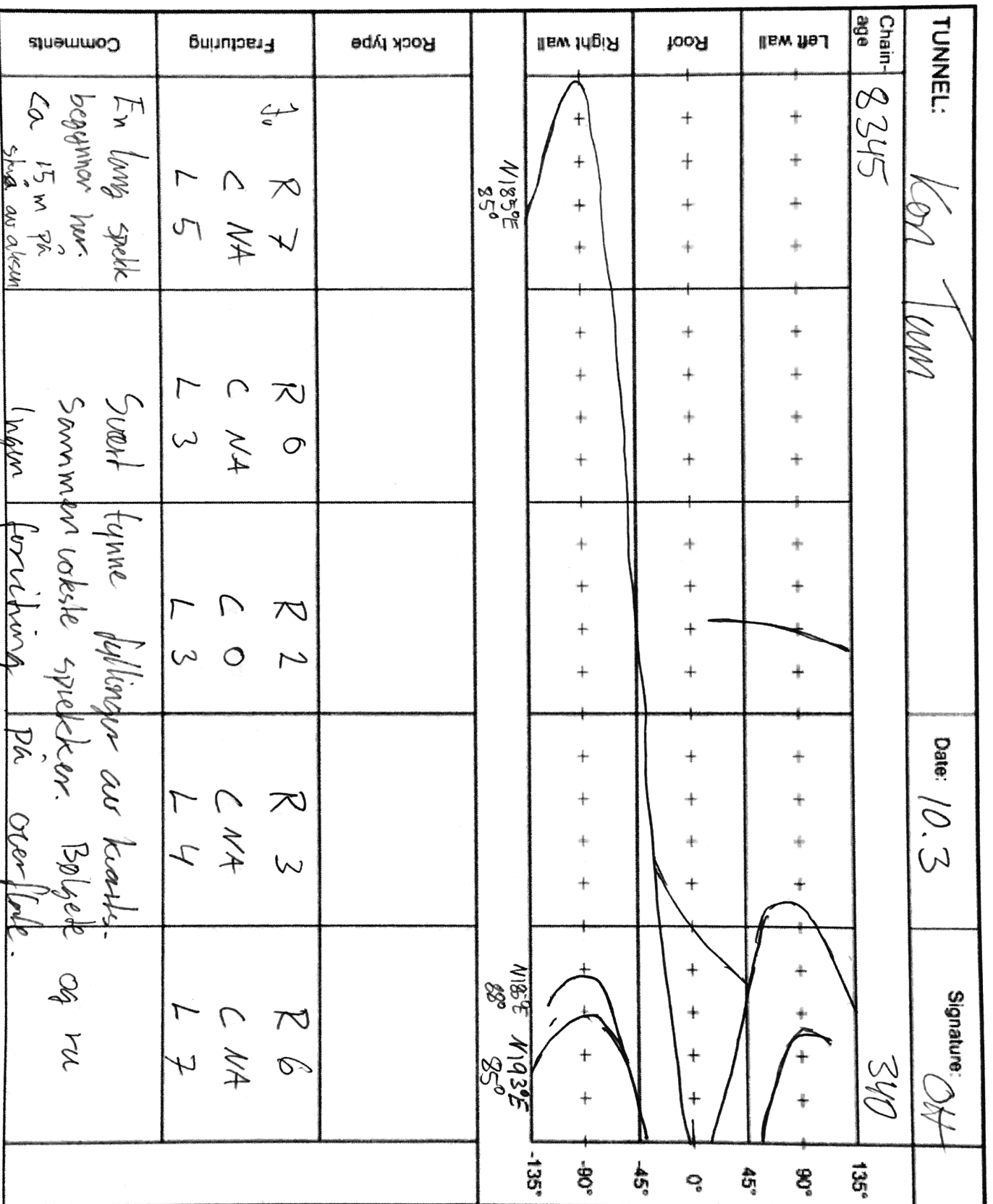
Rock type	Fracturing	Comments
	<div> <div>R 1</div> <div>C 0</div> <div>L 9</div> </div>	
	<div> <div>R 2</div> <div>C 0</div> <div>L 1</div> </div>	
	<div> <div>R 3</div> <div>C 3</div> <div>L 3</div> </div>	
	<div> <div>R 4</div> <div>C 2</div> <div>L 3</div> </div>	
	<div> <div>R 4</div> <div>C 11</div> <div>L 0</div> </div>	
<p>Summarize picture when flying Plan of the spect.</p>		



TUNNEL:		Date: 10.3		Signature: <i>OK</i>		
Chain-age	8365					360
Left wall	+	+	+	+	+	135°
	+	+	+	+	+	90°
	+	+	+	+	+	45°
Roof	+	+	+	+	+	0°
	+	+	+	+	+	-45°
Right wall	+	+	+	+	+	-90°
	+	+	+	+	+	-135°
Rock type						
Fracturing	T _v R 1 C 1 L 1	R 3 C 6 6 L 6	R 3 C NA L 4	R 2 C NA L 3	R 0 L NA L 3	
Comments	En fukting sprekk Sammenhengende sprekker uten fylling eller forretnings Nesten massivt berg Ikke mulig å måle streke og fall					

TUNNEL: Kon Tum		Date: 10.3	Signature: <i>OK</i>
Chain-age	8360		
	355		
135°			
90°			
45°			
0°			
-45°			
-90°			
-135°			
Left wall	+	+	+
Roof	+	+	+
Right wall	+	+	+
Rock type			
Fracturing	<i>J_v</i> R 2 C 0 L 4	R 2 C NA L 3	R 0 C NA L 3
Comments	Massive berg med en tilfældig sprækk.		

TUNNEL: <i>Ken Turn</i>					Date: <i>10.3</i>	Signature: <i>OA</i>	
Chain-age	<i>8355</i>					<i>350</i>	135°
Left wall	+	+	+	+	+	+	90°
Roof	+	+	+	+	+	+	45°
Right wall	+	+	+	+	+	+	0°
	+	+	+	+	+	+	-45°
	+	+	+	+	+	+	-90°
	+	+	+	+	+	+	-135°
Rock type							
Fracturing	<i>7</i> <i>R 2</i> <i>C 0</i> <i>L</i>	<i>R 0</i> <i>C 0</i> <i>L</i>	<i>R 2</i> <i>C NA</i> <i>L 8</i>	<i>R 0</i> <i>C NA</i> <i>L 7</i>	<i>R 4</i> <i>C NA</i> <i>L 3</i>		
Comments	<i>En tilfjelling sprekk eller massivt-</i>						

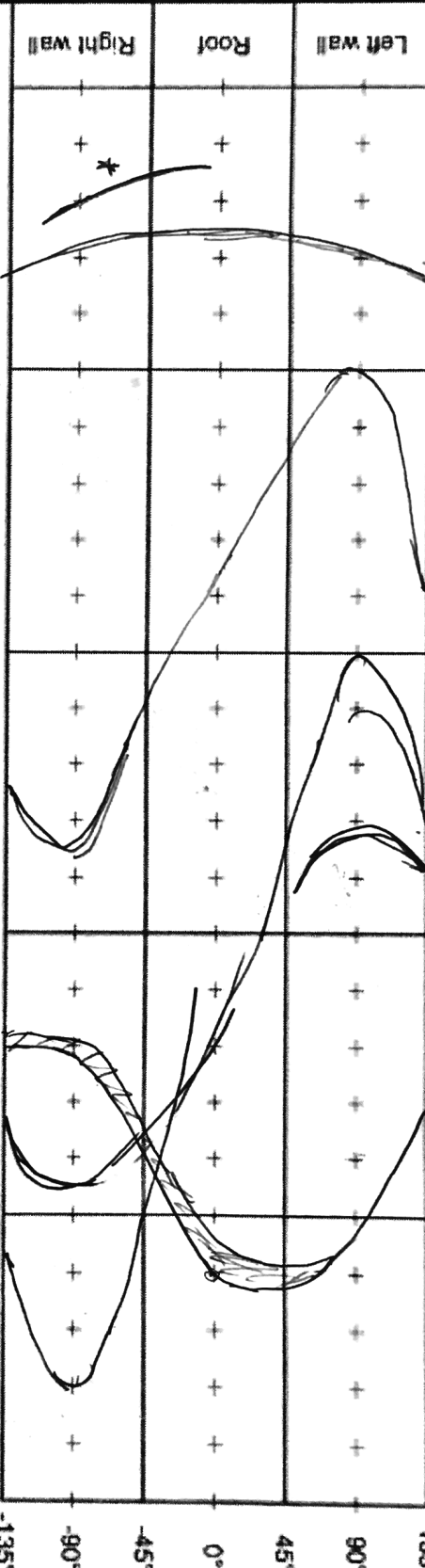
TUNNEL:		Date:		Signature:	
Kon Tum		10.3			
Chain-age	8350	345			
Left wall	+	+	+	+	+
Roof	+	+	+	+	+
Right wall	+	+	+	+	+
<div style="text-align: center;">  </div>					
Rock type					
Fracturing	R 0 C 0 L 0	R 10 C 0 L 0	R 0 C 0 L 0	R 0 C 0 L 0	R 0 C 0 L 0
Comments	Sprickkeipning På ca 0-1 mm, ingen fylling				



TUNNEL:		Date:		Signature:	
Ken Tamm		10.3			
Chain-age	8340			335	
Left wall	+	+	+	+	+
Roof	+	+	+	+	+
Right wall	+	+	+	+	+
					
N 212° E 85°					
M 184° E 85°					
Rock type					
Fracturing	R 5 C NA L O	R 5 C NA L O	R 7 C NA L O	R 8 C NA L O	R 6 C NA L O
Comments	Bolts spaced out filling. Ru over plate. Ingress forcing.				

TUNNEL: Kon Tum		Date: 10.3	Signature: <i>BA</i>
Chain-age	8335		330
Left wall			135°
Roof			90°
Right wall			45°
N145°E 85°			
Rock type			
Fracturing	R 4 L NA L 0	R 5 L NA L 8	R 0 L 0 L 7
Comments	Bolts speckles when filling.		

TUNNEL: Kon Tum				Date: 10.3	Signature: <i>OT</i>	
Chain-age	8330	325	320	315	310	305
Left wall	+	+	+	+	+	+
Roof	+	+	+	+	+	+
Right wall	+	+	+	+	+	+
Rock type						
Fracturing	$\begin{matrix} R & 2 \\ C & 0 \\ L & 0 \end{matrix}$	$\begin{matrix} R & 3 \\ C & 0 \\ L & 2 \end{matrix}$	$\begin{matrix} R & 5 \\ C & 0 \\ L & 6 \end{matrix}$	$\begin{matrix} R & 1 \\ C & 0 \\ L & 3 \end{matrix}$	$\begin{matrix} R & 0 \\ C & 0 \\ L & 2 \end{matrix}$	
Comments	<p>25 m stekning med Tegne fjellingar av fa spalter. Hordsabelig massivt. kants. Ru og bolget</p>					

TUNNEL: Kon Tum				Date: 10. 3	Signature: <i>OK</i>	
Chain-age	8305	300	295	290	285	280
Left wall	+	+	+	+	+	+
Roof	+	+	+	+	+	+
Right wall	+	+	+	+	+	+
						
Rock type						
Fracturing	R 4 C 3 L 4	R 4 C 4 L 4	R 5 C 6 L 7	R 12 C 6 L 4	R 7 C 8 L 9	
Comments	25 m strekning med nora sprickor i Högskallingmassivet. Bolagse sprickor med tyngre ännu av brant.					

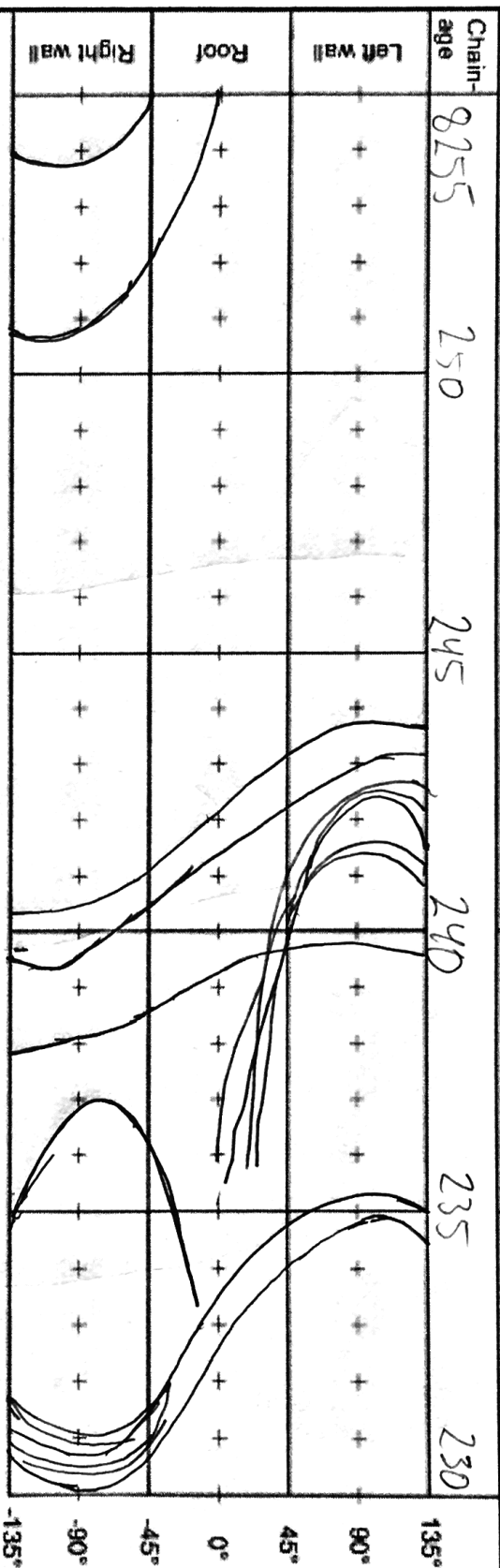
TUNNEL: <i>Kon Tum</i>					Date: <i>12.3</i>	Signature: <i>OG</i>
Chain-age	<i>8280</i>	<i>275</i>	<i>270</i>	<i>265</i>	<i>260</i>	<i>255</i>
Left wall						
Roof						
Right wall						
Rock type						
Fracturing	<i>Js 9</i>	<i>7</i>	<i>7</i>	<i>3</i>	<i>5</i>	
Comments	<i>Flere tilfælde ikke-gennemskendte sprækker. Innhold av kants, ingen åpning, ingen forvridning</i>					

135°
90°
45°
0°
-45°
-90°
-135°

TUNNEL: *Kon Tum*

Date: 22.3

Signature: *OK*



Sprikkeavstand: 30-40 cm.

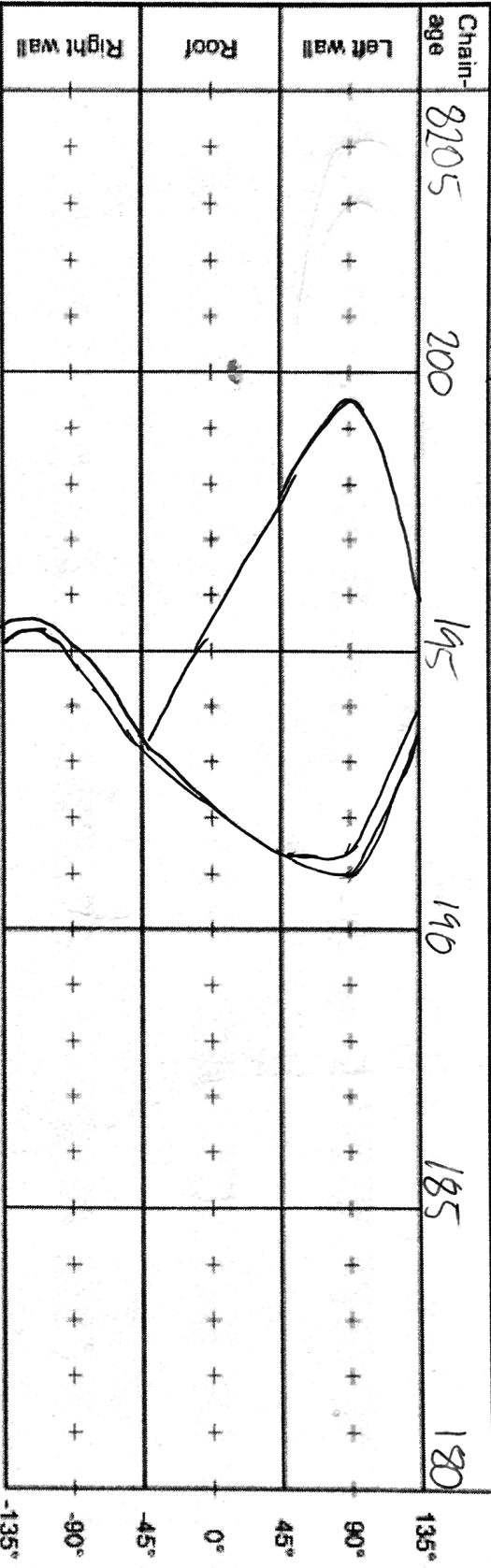
Rock type					
Fracturing	<div> <div> <div>↓</div> <div>R 3</div> <div>C NA</div> <div>L 7</div> </div> <div> <div>R 1</div> <div>C NA</div> <div>L 6</div> </div> </div>	<div> <div>R 3</div> <div>C 5</div> <div>L 16</div> </div> <div> <div>R 12</div> <div>C NA</div> <div>L 18</div> </div>	<div> <div>R 7</div> <div>C 11</div> <div>L 5</div> </div>		
Comments	<div> <div> <div>Like OPP sprukket.</div> <div>krants (små fyllinger)</div> <div>ingen åpning eller forvridning</div> </div> <div> <div>Spore krantsfyllinger, mulig overflateforvridning.</div> <div>Åpning > 1mm (245-235)</div> </div> </div>				

TUNNEL:	Date:	Signature:
Kon Tum	22.3	[Signature]
Chain-age	8780	225
	220	210
	205	
Left wall	+ + + + +	+ + + + +
Roof	+ + + + +	+ + + + +
Right wall	+ + + + +	+ + + + +
Rock type		
Fracuring	fz 2	3
Comments	Kwarts imbedd, mod overplate- fracturing. Golder (220-205)	Fuking runt hole from width

TUNNEL: Korn Tunnel

Date: 22.3

Signature: *[Signature]*



Chain-age	8205	200	195	190	185	180	135°
Left wall	+	+	+	+	+	+	90°
Roof	+	+	+	+	+	+	0°
Right wall	+	+	+	+	+	+	-45°
	+	+	+	+	+	+	-90°
	+	+	+	+	+	+	-135°
Rock type							
Fracturing	3	2	7	6	3	5	
Comments			Fuking vandt mek borsmidt (200-195)	* Forskide fylling av glatt lav/silt			

(195-190)
(200-190)

TUNNEL: <i>Korn Turn</i>		Date: <i>22.3</i>	Signature: <i>OK</i>
Chain-age	<i>2180</i>	<i>175</i>	<i>170</i>
Left wall			
Roof			
Right wall			
Rock type	<i>Fracturing</i>		
Comments	<i>Thick filling at karsts. Horizontally (fracturing)</i>		
	<i>4</i>	<i>4</i>	<i>6</i>
	<i>Overhanging (Bergspitzprobleme)</i>		
	<i>6</i>	<i>6</i>	<i>10</i>
	<i>Thin filling at karsts. Like fracture. Not overhanging on side here.</i>		

TUNNEL:

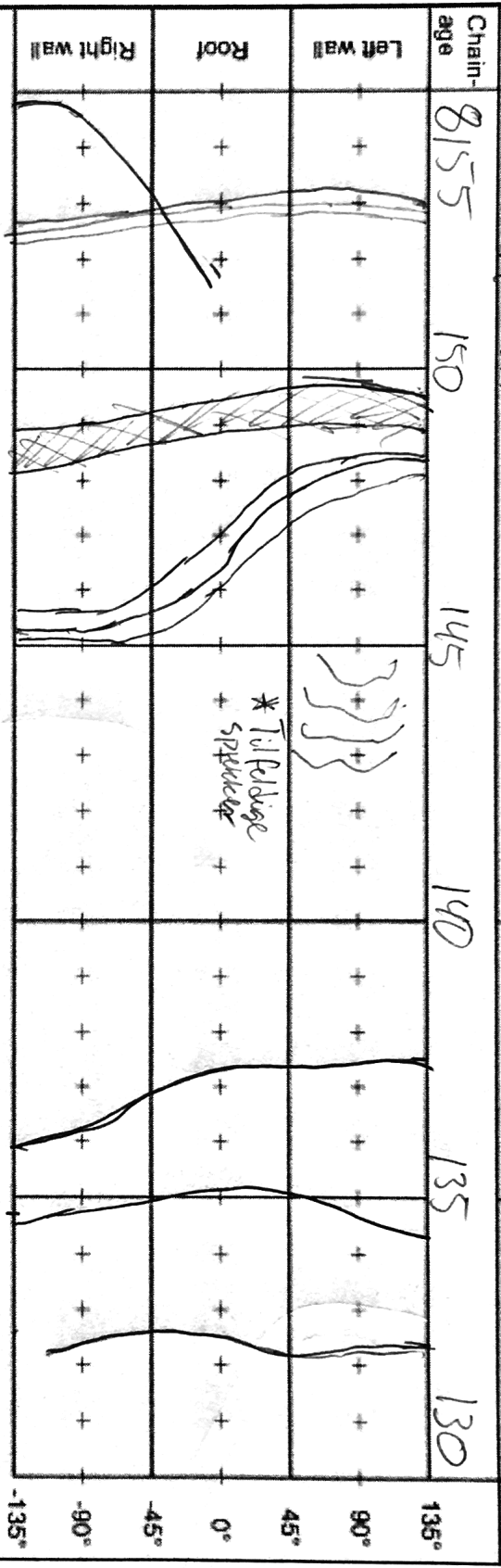
Kona Tunnel

Date:

22.3

Signature:

GH



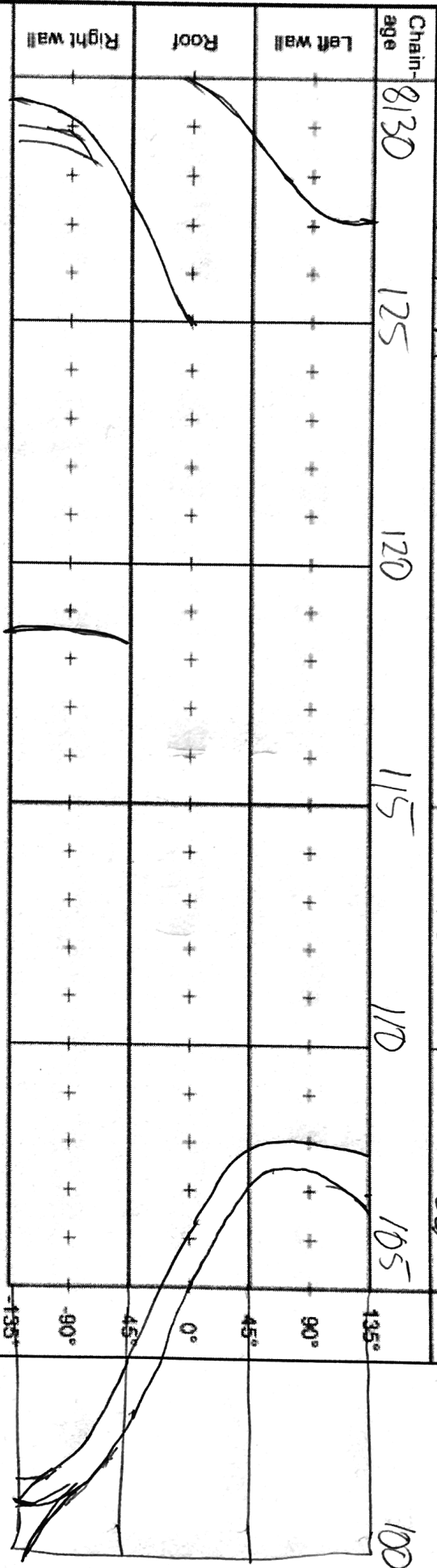
Rock type	Fracturing	Comments
Krusningszone fyllt med kvartits og skammene vann med artetakt trykk	15	Elektron forvridning
Spjeldkass-stand 25-30 cm	14	
Spjeldkass-stand ca 40 cm under veg	8	
	6	
	6	Tynne kvartits- fyllinger. Ingen forvridning

(Gjelder alt mellom 150-145)

TUNNEL: *Kon Tum*

Date: 22.3

Signature: *OK*



Chain-age	8130	125	120	115	110	105	135°	100
Left wall	+	+	+	+	+	+	+	+
Roof	+	+	+	+	+	+	+	+
Right wall	+	+	+	+	+	+	+	+
Rock type								
Fracturing	1 45	5	0	3	0	2		
Comments	Fuking Tymn karstfall ingen fordring	Masivt	Tym karstgylning ingen fordring	Masivt	Ingen fylling ingen fordring			

4

⇒ {
—
—

[illegible]

Tunnel: Upper Kon Tum HPP


Q-Parameters

Date: 1.3.2023


Sign: *OK*

Chainage		Jn	Jr	Ja	Jw	
From	To	Ett sett: Jn = 2, Ett + tilfeldige: Jn = 3 To sett: Jn = 4, To + tilfeldige: Jn = 6 Tre sett: Jn = 9, Tre + tilfeldige: Jn = 12, Fire eller mer: Jn = 15	Diskontinuerlige sprekker: Jr = 4, Ru, ujev, bølgete: Jr = 3 Glatt, bølgete: Jr = 2 Ru, ujev, plan: Jr = 1,5	Harde mineraler: Ja = 0,75, Uomvandlet: Ja = 1, Siltig el sandig belegg: Ja = 3, Skjærdeformasjon knust berg, Ja = 4	Tørt: Jw = 1, Mellomting ca 0,75 Mange drypp: Jw = 0,66 Vannstråler: Jw = 0,5	
8420	8425	3	3	1	1	
8425	430	3	3	1	0,75	
8430	435	3	4	1	1	
8435	440	2+2	4	Diskont?	Diskont?	1
8440	445	1+2	3	Diskont?	Diskont?	1
8445	450	2	3	Sprekkefylling Sprekkefylling?	ingen fylling	1
8450	455	0,112	4	Diskont?	ingen sprekker	1
8455	460	1+2	3		0,75	1
8460	465	2+2	4	Diskont	ingen fylling	1
8465	470	1+2	3		hit belegg	1
8470	475	1+2	3	Diskont?	ingen fylling	1
8475	480	2+2	3	Diskont?	0,75	1
8480	485	2+2	3	Bølgete?	ingen el. knuts?	1
8485	490	1+2	3		1	1
8490	495	1+2				0,66
8495	500					0,66
						Sikring


Tunnel: Upper Kon Tum HPP		RMR-Parameters		Date:	Sign:		
Chainage		Spacing of discontinuities		Conditions of discontinuities			
From	To	<div>> 2 meter : 20 2 - 0,6 meter: 15 0,6 - 0,2 meter: 10 20 - 6 cm: 8 < 6 cm: 5</div>		<div>Lengde: <1m: 6, 1-3m: 4, 3-10m: 2, 10-20m: 1, >20m: 0 Separasjon: Ingen: 6, <0,1mm: 5, 0,1-1mm: 4, 1-5mm: 1, > 5mm: 0 Ruhet: Veldig: 6, Ru: 5, Litt: 3, Smooth: 1, Glat: 0 Fylling: Ingen: 6, Hard <5mm: 4, Hard >5mm: 2, Soft <5mm: 2, Forvitring: Ingen: 6, Litt: 5, Moderat: 3, Veldig: 1, Oppløst: 0</div>			Kommentarer
8625	20	15		2+4+5+4+5			
8620	15	15		2+4+5+4+5		ferm	
8615	10	15		— 11 —			
8610	05	15		2+4+5+2+5		Fylling: hard	
8605	00	15		2+4+5+4+6			
8600	95	8		2+6+5+4+5			
8695	90	8		— n —			
8690	85	10(6(15))		2+6+5+2+3			
8685	80	15		2+6+5+2+5			
8680	75	15		2+6+5+2+5			
8675	70	10(6(15))		2+6+3+4+5			
8670	65	10		2+4+5+4+3			
8665	60	10		2+4+5+4+6			
	55						
	50						

Tunnel: Upper Kon Tum HPP		RMR-Parameters		Date: 14.3	Sign: 	
Chainage		Spacing of discontinuities		Conditions of discontinuities		Kommentarer
From	To	> 2 meter : 20 20 - 6 cm: 8 2 - 0,6 meter: 15 0,6 - 0,2 meter: 10 < 6 cm: 5		Lengde: <1m: 6, 1-3m: 4, 3-10m: 2, 10-20m: 1, >20m: 0 Separasjon: Ingen: 6, <0,1mm: 5, 0,1-1mm: 4, 1-5mm: 1, > 5mm: 0 Ruhet: Veldig: 6, Ru: 5, Litt: 3, Smooth: 1, Glat, 0 Fylling: Ingen: 6, Hard <5mm: 4, Hard >5mm: 2, Soft <5mm: 2, Forvitring: Ingen: 6, Litt: 5, Moderat: 3, Veldig: 1, Oppløst: 0		
8700	8695	10		$2 + (4 \times 5) + (5 \times 6) + 6 + 6$		Auslating Spenningsproblemer
8695	8690	8		$2 + 1 + (5 \times 6) + 6 + 6$		— " —
8690	8685	10		$2 + 6 + 5 + 4 + 6$		
8685	8680	10		$2 + (4 \times 5) + 5 + 6 + 6$		
8680	8675	15		$2 + (4 \times 5) + 5 + 6 + 6$		Auslating Spenningsproblemer
8675	8670	15		— " —		
8670	8665	15		$2 + 4 + 5 + 6 + 6$		
8665	8660	10		$2 + 6 + 5 + 6 + 6$		Spenningsproblemer
8660	8655	15		$2 + 6 + 5 + 6 + 6$		Vekt
8655	8650	10		$2 + 6 + 5 + (soft > 5mm) + (del 3)$		Leir fylling
8650	45	10		$2 + 6 + 3 + 6 + 6$		
8645	40	10		$2 + 6 + 5 + 6 + 5$		
8640	35	10		$2 + 4 + 3 + 6 + 6$		
8635	30	8		$2 + 1 + 5 + 4 + 5$		Skriving i tale

~~Me~~ Me till oppsprakket berg, men bra tilstand på trekkene

Tunnel: Upper Kon Tum HPP		RMR-Parameters		Date: 14.3	Sign: 	
Chainage		Spacing of discontinuities		Conditions of discontinuities		
From	To	> 2 meter : 20 2 - 0,6 meter: 15 0,6 - 0,2 meter: 10 20 - 6 cm: 8 < 6 cm: 5		Lenge: <1m: 6, 1-3m: 4, 3-10m: 2, 10-20m: 1, >20m: 0 Separasjon: Ingen: 6, <0,1mm: 5, 0,1-1mm: 4, 1-5mm: 1, > 5mm: 0 Ruhet: Veldig: 6, Ru: 5, Litt: 3, Smooth: 1, Glatt: 0 Fylling: Ingen: 6, Hard <5mm: 4, Hard >5mm: 2, Soft <5mm: 2, Forvitring: Ingen: 6, Litt: 5, Moderat: 3, Veldig: 1, Oppløst: 0		Kommentarer
8750	45	15		2+6+5+4+(3 el 1)		Strømmende vann
8745	40	15 el 20		2+6+5+2+5		Stor fylling av krevs se bakte
8740	35	15 el 20		2+6+3+4+6		Krevs - sammensatt
8735	30	15		2+ 6 +5+4+6		— — — + åpning
8730	25	20 el 15		2+6+5+4+ 5		Litt forvitring
8725	20	15		2+6+5+6+6		Ingen fylling
8720	15	20		2+6+5+4+6		Mye avskalning spenningsproblemer
8715	10	20		2+5+3+4+6		En litt glatt spesialt glatt
8710	05	20		4+6+5+4+6		Få sprekker
8705	00	15		2+6+5+4+3		3m + fukt.

Bergpartigranse

Tunnel: Upper Kon Tum HPP		RMR-Parameters		Date: 1.3/7.3	Sign: 	
Chainage		Spacing of discontinuities		Conditions of discontinuities		
From	To	> 2 meter : 20 2 - 0,6 meter: 15 0,6 - 0,2 meter: 10 20 - 6 cm: 8 < 6 cm: 5		Lengde: <1m: 6, 1-3m: 4, 3-10m: 2, 10-20m: 1, >20m: 0 Separasjon: Ingen: 6, <0,1mm: 5, 0,1-1mm: 4, 1-5mm: 1, >5mm: 0 Ruhet: Veldig: 6, Ru: 5, Litt: 3, Smooth: 1, Glat, 0 Fylling: Ingen: 6, Hard <5mm: 4, Hard >5mm: 2, Soft <5mm: 2, Forvitring: Ingen: 6, Litt: 5, Moderat: 3, Veldig: 1, Oppløst: 0		Kommentarer
8420	425	15		2 + 6 + 5 + 4 + 5 = 22		
8425	430	20		22		Litt fukting spukk
8430	435	15		22		
8435	440	15	2-0,6m?	2 + 6 + 5 + 6 + 6	Lengde 3-10? Separasjon 1mm?	
8440	445	15	2-0,6m?	1 + 4 + 5 + 4 + 5	Ingen fylling? Sep 1-2 mm?	
8445	450	10	0,6-0,2 el 0,6-0,2	2 + 1 + 5 + 6 + 6	Ru el glatt? Fyll 3, Lengde 2	Skriving
8450	455	20	> 2?	6 + 6 + 6 + 6 + 6		
8455	460	15	2-0,6?	2 + 6 + 5 + 4 + 5	Sep 0? For- kants z utvett?	
8460	465	15	2-0,6 el >2?	2 + 6 + 3 + 4 + 6	Sep 0?	
8465	470	15	2-0,6? >2?	2 + 6 + 5 + 2 + 3	Ingen fyll? Sep 0?	
8470	475	15	2-0,6?	2 + 6 + 5 + 4 + 6	Fylling? Forvitring?	
8475	480	15	2-0,6? >2?	2 + 6 + 5 + 4 + 6	Kants Sep 0?	
8480	485	15	2-0,6 >2?	2 + 6 + 5 + 4 + 6	Sep 0? Forvitring	
8485	490	20	>2?	2 + 6 + 5 + 6 + 6		
8490	495	10	2-0,6? 0,6-0,2?	2 + 6 + 5 + 2 + 3	Ruhet? Fylling?	Skriving

Separasjon?